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The Surgical Diabetic

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This paper discusses certain phases of a disease which affects over one per cent of our population. There are more than 1,000,000 diabetics in the United States today. This number is not decreasing, but the incidence is progressively increasing. Diabetic children are living, 100 having passed the 10-year mark in Joslin's Clinic in 1933. In the pre-insulin era, the average diabetic lived six years; today he lives five times as long. The living diabetics of today are the dead diabetics of pre-insulin days. Their lives have been saved and carried on by the three diabetic horses, namely, diet, exercise and insulin.

Great strides have been made and are being made in the understanding and care of the diabetic. We have learned the importance of heredity, that artereosclerosis occurs in the neglected and neglectful patient and we are becoming cholesterol minded. No specialty escapes contact with the diabetic and it is frequently every specialist's duty to diagnose and perhaps treat some manifestation of this disease of metabolism, which leads tuberculosis in mortality. Consequently, as a result of the reduction of the death rate in diabetic children to almost zero and through improved care, the diabetic is allowed to live a longer and less burdensome life and there is an increasing number of diabetics who are more prone to develop conditions requiring surgery. This large group is liable to all surgical diseases and in addition, is particularly susceptible to two special surgical diseases, namely, gangrene, chiefly of the lower extremities, and infection, as carbuncles and furunculosis.

The subject "Surgical Diabetes" is consequently of outstanding importance to the surgeon on account of its accelerated frequency and because of the fact that the surgical diabetic is the serious diabetic. Every other diabetic is a surgical diabetic before he dies, and as a surgical diabetic he is six times more liable to die than the medical diabetic. He, therefore, deserves six times the attention. Although the diabetic is susceptible to all surgical diseases throughout the span of life, 50 is the average age. He is not only susceptible to the usual diseases demanding surgery, and the complications likely to occur in any individual, but he is more prone to develop degenerative changes on account of his disturbed metabolism. Sclerosis of his arteries is 10 years in advance of his years, and he is probably more susceptible to infection and to trauma. Even if he is not, any infection raises the blood sugar, delays healing, and reduces the potency of insulin from 50 to 75 per cent. The infection that induces a constitutional reaction, augments the severity of the diabetes and, as the diabetes grows worse, tissue resistance decreases, and infection progresses. Neglected infection spreads and the diabetes grows more and more difficult to control. There is an unexplained diminution in the ability of the body to utilize carbohydrates, the potency of insulin is markedly decreased, and otherwise diagnostic signs and symptoms are masked by the acidosis and impending coma. A mild diabetic becomes temporarily a severe one. Keen judgment and quick decision are necessary. Early removal of local infec-

tion stops the vicious circle and insulin regains its potency. Therefore, the surgical diabetic should always be looked upon as a surgical emergency. The surgeon should have a thorough understanding of diabetic pathology and he should have the continuous cooperation of the internist, for the surgical problems are also medical problems.

To state that a surgical patient has diabetes gives as little information regarding that patient's fitness for surgery and his prognosis, as to say that a non-diabetic patient has appendicitis. In addition to the routine examination of the surgical patient, a complete and detailed history of his diabetes is essential.

The length of time he has been a diabetic, the severity of the disease, and the treatment he has received, are all essential. Has his diabetes been neglected, or has he been neglectful? Diabetes is not only a disease of carbohydrate metabolism, but also of protein and fat metabolism. It is now known that this r a p i d l y developed arteriosclerosis is due to inadequate dietary measures. It should be realized that, on account of this sclerosis, the average surgical diabetic has myocarditis. He is a potential coronary thrombosis case. There is an abnormal deposition of glycogen in the heart, in the kidneys, and in the skin.

Realizing the foregoing, the best surgical treatment is prophylaxis, for the diabetic's greatest enemy is surgical disease, and in the majority of instances preventive measures prevent death. Gangrene is the m a j o r surgical complication today and usually occurs in the untreated or poorly treated c a s e s. Ketosis, hyperglycaemia, arteriosclerosis, and malnutrition, increase diabetic liability to infection. Scrupulous cleanliness, a v o i d a n c e of the slightest trauma, postural exercises and the avoidance of hot and cold extremes are some of the measures of prevention. Tight shoes should not be worn. Corns and bunions should receive meticulous c a r e. Joslin says "He taught the Jew and the Gentile to wash his feet." Pain in the legs and cold extremities are premonitory s i g n s and should be signals of danger and preventive measures t a k e n. Furunculosis and carbuncles are a constant bugaboo to the diabetic. Carbuncles are s e p t i c, the worst class of diabetic infection, and carry the highest mortality.

Notwithstanding instruction, care, and prophylaxis, a definite percentage of diabetics are coming to surgery each year. There is the patient who is to be subjected to an operation either for a condition primarily diabetic, s u c h as gangrene, carbuncle, or furunculosis, or, there is the group made up of surgical diseases, which occur independently of, but simultaneously with diabetes, as appendicitis, cholelithiasis, thyroid disease, etc.

Before 1921 and the advent of insulin, diabetes was a contra-indication to elective surgery and the mortality was 40 to 80 per cent. Today the presence of diabetes is of definite consequence, but u n d e r proper management, the prognosis is good. It has even been said that mild diabetes is an asset to the patient, in that it warns the surgeon to thoroughly prepare the patient, who otherwise m i g h t be operated upon following casual pre-operative measures. Mortality is not higher than 10 per cent, and in some clinics as low as 2.5 per cent. In Bazin's clinic, the mortality in a series of surgical diabetics was 2.7, while in the non-diabetics it was 2.4.

The general pre-operative rules are the same, whether the case be one of primarily diabetic surgery, or a surgical disease occurring in the p r e s e n c e of diabetes. If possible, the patient should be under the care of an internist. Surgery tends to dehydration, acidosis, elevation of the blood s u g a r, and the reduction of the nitrous oxide combining power of the blood plasma. Local power of resistance is diminished and degenerative changes are more prone to develop on account of the disturbed metabolism. The patient is over 40, and usually 50 years old. He must be prepared thoroughly and watched closely. If the s u r g i c a l infection is not treated, there will be no diabetic to treat.

If the operation is one of choice, several days of pre-operative care is advantageous. An attempt is made to have the patient's urine sugar free and the blood sugar as near normal as possible, and at least below 250. Preparation should be carried out with the patient in bed; it cannot be accomplished otherwise. The diet should be liberal in carbohydrates, containing at least 100 grms., and a more liberal diet is necessary in the infectious case than in the non-infectious case. Any diet neces-

sary may be given to build up the patient, said diet being buffered with insulin. Clark (John Hopkins Bulletin) found that wounds heal faster when the diet is adequate in carbohydrates, and fasting diets delay healing. Joslin says "Feed the patient up to the last hour possible before operation. He will most likely fast altogether too much afterward." When there is much glycosuria, there is dehydration, a dry tongue, thirst, and a soft eye. At least 3,000 cc. of fluids should be given every 24 hours by mouth, per rectum, or subcutaneously. Be guarded in giving intravenous fluids on account of cardiac changes. Give 30 to 50 grms. of glucose in the form of oatmeal or orange juice, at least two hours before the operation, with the usual dose of insulin. Soda bicarbonate given by some is unnecessary and valueless. Joslin says "I believe that often a patient threatened with diabetic coma is sent into actual coma by the careless administration of soda." Acetone lies dormant in union with protein or the amino acid group. Soda results in a splitting off of the Ketones, overwhelming the vital centers, coma, and perhaps death resulting. A marked loss of weight precedes surgery in the diabetic, an average of 54 pounds in a series of McKittrick. Therefore, be guarded in giving morphine and scopolamine. Laxatives should not be used and only enemeta given, thereby avoiding possible diarrhea and further dehydration.

If the case is an urgent one, indicated surgery should not be delayed long because of the diabetes, even though the blood sugar be high and there be acetone and diacetic in the urine. Infection increases the severity of diabetes and delay means death of the patient.

Examine the urine and give 50 grms. of glucose by some means, by mouth, per rectum, or intravenously. Give 30 to 50 units of insulin. Operate and stop the vicious circle, namely; infection—reduction of potency of insulin—lowering of tissue resistance — advance of infection — slough — lymphangitis—septicaemia—death.

Anaesthesia: Ether and chloroform should be avoided, as they are lipin solvents. Ether causes a blood sugar rise of 300 milligrams the first hour, which means glycosuria, acetonuria, and diacetic acid. Nitrous oxide and oxygen is less damaging, but is dehydrating. Cyclopropane and ethylene probably are the best inhalation anaesthetics. Infiltration anaesthetic is satisfactory, though there is the possibility of devitalization of tissues already suffering from metabolic derangement. Spinal anaesthetic is the anaesthetic of choice in surgery, below the diaphragm.

Operation: Strictly speaking, diabetic surgery rests upon arteriosclerosis and infection. During the operation, the general rules are the same, whether the operation be one of choice or emergency. Time is an important factor. The simplest operation which will relieve the patient is the best. No secondary operation should be performed. The patient should be kept warm, and fluid loss prevented. Subcutaneous fluids should be given if necessary. One may give the patient glucose and fluids through a Lyon tube before, during, and after surgery.

In the care of carbuncles, furunculosis, and similar infections, the standard surgical treatment is indicated, remembering that carbuncles are of the septic group and diabetically speaking, are of the worst class, and the mortality is high.

Incision, debridement, drainage, wet dressings, elevation, etc., should be instituted without delay. Baking and ultra violet ray are helpful adjuncts. Delay means coma or septicaemia, or both, control of neither and death. Gangrene, which is the major surgical complication today, is negligible under 40, but occurs in 31 per cent of diabetics over 60 years of age. Add infection with its swelling and loss of local power of resistance, and the serous and cellular exudate pinches still further the blood supply, resulting in necrosis and death.

The local treatment depends on the circulatory response and the presence or absence of sepsis. The presence of gangrene without infection is unusual and means the absence of putrefactive bacteria and sloughing. A few cases may continue, as dry gangrene. If the surgeon waits, he must watch closely, remembering that the highest mortality is in amputation cases and control is much easier after amputation than before. The limbs should be X-rayed. High amputation means better collateral circulation, therefore amputation should be high, below the knee, or in mid-

thigh. Do not use a tourniquet, as it traumatizes the tissues and the sclerosed vessels. The Kocher amputation, layer by layer, is the most satisfactory. It is simple and rapid. The technique must be scrupulous. Hemostasis must be exact. The operation is completed with through and through simple closure, under very little tension and without drainage. When the operation is elective, or one of choice, complete preparation can be carried out, but if the condition is infectious, it is a surgical emergency.

Gall Bladder: Gall bladder disease is nine times as frequent in the diabetic as in the non-diabetic, and cholecystostomy is usually the wiser operation. Remove the gall bladder and the patient improves and the diabetes moderates. This is a frequent occurrence in diabetes. Joslin says "Remove the gall stones as a preventative."

Hyperthyroidism is as harmful as an infection. The increased metabolism drives the diabetic down hill and he becomes the severest of the severe. The endogenous eating of the thyroid goes on day and night while the exogenous eating of the diabetic only occurs T. I. D. The endogenous diet cannot be controlled. The symptoms of goiter and diabetes are very similar, namely; red cheeks—overeating—emaciation—leucocytosis—glycosuria and uncontrolled metabolism is high in each. The blood sugar reading decides. Never fail to save the diabetic the burden of hyperthyroidism.

The acute abdomen in the diabetic is insidious in its onset, frequently simulates coma, and surgical symptoms are often obscured. When acidosis is present, the surgeon must differentiate between the signs and symptoms due to acidosis and those due to an intra-abdominal lesion. In each there may be: (1) Pain and cramping, (2) nausea and vomiting for hours or days, (3) obstipation, (4) some fever because slight infection may initiate acidosis, (5) rapid pulse, (6) dry tongue, (7) abdominal cramps and tenderness not usually localized, (8) leucocytosis from 12,000 to 40,000. A careful history is therefore paramount in importance. The pain is more definite and localized in the surgical abdomen. Nausea and vomiting usually *follow* pain in the surgical belly. Local tenderness is the most important single symptom. Pain may disappear, but tenderness remains. Logical relationship of signs and symptoms should be present. Special examinations may be helpful, as the Graham dye test and the van den Bergh in differentiating gall bladder involvement.

Appendicitis: Appendicitis is difficult to differentiate. Quoting McKittrick, "Acute appendicitis is insidious in its onset, treacherous in its course and uncertain in its outcome." If carefully sought for, the local tenderness persists. Rectal and vaginal examinations may clinch the diagnosis. As a rule, the older the patient, the more indefinite are the signs and symptoms of appendicitis. A careful history, thorough examination, urine and blood examinations in a known diabetic, usually make the decision. When in doubt, an appendectomy should be done under local anaesthesia, and no harm will be done. Delay means disaster. In the unavoidable interim, glucose and insulin should be given, moderating the acidosis and possibly clarifying an otherwise doubtful diagnosis.

Post-operative Care: Post-operative care is a continuation of the pre-operative preparation, remembering that with relief of infection the insulin dosage is reduced.

Test the urine every two hours for the first 24 hours, and give insulin accordingly. Test the blood sugar within six hours. Do not worry over sugar in the urine, but watch for diacetic acid, for "When Ketosis comes with infection, coma is not far off." Start fluids by mouth as soon as possible, in the form of cereal gruels, milk, ginger ale, etc. If the patient cannot take sufficient fluids by mouth and per rectum, give glucose solutions subcutaneously. The patient should get at least 50 gms. of glucose the first 24 hours, and it may be necessary to give a liberal diet buffered with sufficient insulin. Late in the convalescent period, postural exercises in bed will be helpful. They preserve the carbohydrates, prevent pneumonia, improve the circulation, stop pains, and heal ulcers and wounds.

Remember! Continued loss of weight in a well treated diabetic means one of three things—malignancy, pus, or tuberculosis.

Dual Etiology of Intractable Asthma*

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Of 200 cases of intractable asthma which we have treated during the past few years, about one-fourth of all cases was unable to work and another fourth was 75 per cent disabled. Many others had difficulty in carrying on a gainful occupation. The degree of disability in intractable asthma certainly justifies careful consideration of all etiologic factors.

During the last quarter of a century, much has been written by Rowe[1], Duke[2], Vaughan[3], Coca[4], Feinberg[5], one of us[6] (R. M. B.), and others, concerning sensitization factors in all types of asthma. For many years, we have believed that there is another group of factors in these cases, but only during the last two years have we been able to demonstrate definitely that it existed. Our study leads us to believe that over 90 per cent of all cases of intractable asthma has a dual etiology.

ETIOLOGIC FACTORS IN INTRACTABLE ASTHMA

1. Sensitization factors
   - (a) Food
   - (b) Animal emanation and various dusts
   - (c) Pollen
   - (d) Miscellaneous
2. Mechanical factors
   - (a) Mucus plugs
   - (b) Purulent bronchial secretions
   - (c) Asthmatic bronchiectasis
   - (d) Usual form of bronchiectasis

Much has been written concerning the sensitization factors, and there is no question about the importance of that group in this type of asthma. Our recent work leads us to believe that the mechanical group of factors is of equal importance in the majority of cases, and in many, of greater importance than the sensitization factors. This evening I wish to discuss primarily the mechanical factors.

COURSE OF DEVELOPMENT OF MECHANICAL FACTOR IN INTRACTABLE ASTHMA

Practically all cases of intractable asthma start with periodic attacks of asthma due to local edema of the mucosa of the bronchial tubes, produced by contact with some substance to which the patient is specifically sensitive. Later these patients develop a superimposed infection, which leads to the production of mucus or purulent material. The plugging of the bronchial tubes with mucus or purulent exudate mechanically produces attacks of asthma.

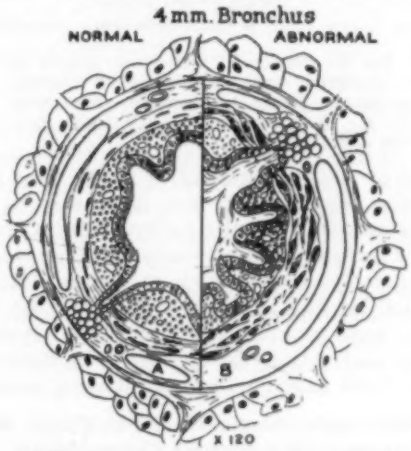

Fig. 1.—Cross section of 4 mm. bronchi—A, normal; B, asthmatic.

Note in B folds of mucous membrane filled with mucus, also, hypertrophy of muscles and mucous glands. Note decrease in size of lumen of asthmatic bronchus compared with the normal.

Seasonal hay fever patients not uncommonly have typical hay fever over a period of 15 or 20 years without asthma, and then, at the end of the season, develop a cold and have slight asthma. The asthmatic attacks will cease at frost or with the disappearance of the specific pollen to

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which they are sensitive. There comes a time in many cases when, due to pollen, the local edema of the bronchial mucosa becomes complicated with an infectious process following a cold, and then the patient continues to have asthma after the

Fig. 2.—Portion of transverse section of a bronchial tube in a case of chronic asthma. (2 mm. in diameter. Magnified 120 x.) Note the lumen is filled with mucus and purulent material.

time of pollination or after frost. This infection may or may not clear up. If it does not clear up, the patient continues to have asthma at any time during the year, frequently accentuated at times during which he has an acute cold. Finally, he may have asthma, severe in type, at any time during the year and never be entirely free from raising ropy or purulent mucus.

Why Asthmatic Attacks in Cases of Intractable Asthma Occur About The Same Time Each Night

For one patient to say that his attacks of asthma occur about 1:30 each morning, the second to tell you that his trouble comes on at 3, and the third to insist that his paroxysms start at 5 or 5:30, is not uncommon. A satisfactory explanation for the regularity of the attacks and the variation in the time of night in which they occur in different individuals has never been given. It appears to us that the thing that probably happens is as follows: In one individual the amount of mucus secreted and the amount of pus that collects in the bronchiectatic areas is fairly great; therefore, three hours after retiring—for example, at one o'clock—so many of the bronchial tubes are filled that nature requires them to be cleaned out. This operation initiates, or is accompanied by, an asthmatic attack. In another individual the lumina of the bronchial tubes are occluded more slowly so that ejection of mucus is postponed until about three o'clock in the morning, while in the third individual it is five o'clock before the cleansing process takes place.

Chief Cause of Death in Intractable Asthma—Chronic Sepsis

In many cases of asthma it is difficult to determine what actually causes death. A number of authors have written concerning the possibility of myocardial changes as an important factor in the cause of death in the asthmatic, but histories, physical findings and electrocardiographic studies offer little evidence that death in the average case of intractable asthma is due to cardiac failure. During the last two years, we have made bronchograms on about 200 cases of intractable asthma, and we find the majority suffering from some type of bronchiectasis. The bronchiectatic areas remain filled with purulent secretions. Most of these patients have WBC counts of from 12,000 to 18,000, which is evidence of toxin absorption. We believe, therefore, that death in the majority of cases of intractable asthma is due to chronic sepsis.

References

1. Rowe, Albert H.: Food Allergy, Philadelphia, Lea & Febiger, 1931.

2. Duke, Wm. W.: Asthma, Hay Fever, Urticaria and Allied Manifestations of Allergy, St. Louis, The C. V. Mosby Co., 1925.

3. Vaughan, Warren T.: Allergy, St. Louis, The C. V. Mosby Co., 1931.

4. Coca, Arthur F., Walzer, Matthew, and Thommen, August A.: Asthma and Hay Fever in Theory and Practice, Baltimore, Charles C. Thomas, 1931.

5. Feinberg, S. M.: Allergy in General Practice, Philadelphia, Lea and Febiger, 1934.

6. Balyeat, Ray M.: Allergic iDseases: Their Diagnosis and Treatment, Philadelphia, F. A. Davis Company, 1930.

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Experience With the Use of Prontylin
Case Report

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PONCA CITY, OKLAHOMA

PATIENT

Mr. A. B. Age 23. Single. Hospital No. 22,798.

HISTORY

On October 20, 1937, patient developed a gonorrheal urethritis with the usual discharge and burning. He gave a history of exposure four or five days before the onset of his symptoms. He was treated by his family physician with G.C. vaccine, three injections per week for three weeks; discharge persisted for three weeks. He was given no irrigations. On November 10 he developed severe, constant pain in his right shoulder, which was greatly aggravated on motion. For two weeks he had noticed swelling and exquisite tenderness in the region of this joint. Pain was severe enough to keep him awake at night. He was unable to abduct the right arm. He had been running a temperature and noticed that he perspired profusely. On November 14 he developed pain in the left index finger at the metacarpal-phalangeal joint; joint was swollen, red, and tender; this persisted for two days, and then subsided. Patient was admitted to the Ponca City Hospital on December 1, 1937.

The past history and physical findings were essentially negative as far as they pertained to this specific condition, except for marked swelling, some redness, and exquisite tenderness in the region of the right shoulder joint. Patient was unable to abduct his arm without severe pain; no involvement of other joints. Temperature was 101; pulse, 90, respirations, 20; blood pressure, 140/90.

LABORATORY

Urinalysis: Cloudy, acid reaction, Sp. gr. 1.010, trace of albumin, no sugar, occasional R.b.c., few W.b.c., few epithelial cells.

W.b.c. 12,100.

Polymorphonuclear neutrophils, 84 per cent.

Lymphocytes, 15 per cent.

Monos, one per cent.

X-ray: X-ray of right shoulder revealed a marked effusion.

The Wassermann was negative.

DIAGNOSIS

Gonorrheal arthritis of the right shoulder.

COURSE

Patient was put at bed rest; right arm was immobilized by means of a sling. He was given codeine for immediate relief of his pain, and prontylin, gr. 15, and sodium bicarbonate, gr. 15, every four hours for three days, making a total of 90 grains of prontylin every 24 hours. After the first 24 hours of this treatment the pain was almost completely relieved, and he continued to remain free from pain in of his pain; and prontylin, gr. 15, and the right shoulder from then on. His temperature was 101 on the day of admission; the maximum on the following day was 99.2. It then remained normal.

On December 4 the blood counts were as follows: Hemoglobin, 80 per cent (Sahli); R.b.c. 4,440,000; W.b.c. 18,450. Differential: Polymorphonuclear neutrophils, 91 per cent; lymphocytes, nine per cent.

On this date the prontylin and sodium bicarbonate were reduced to gr. 10 every four hours, making a total dosage of 60 grains of prontylin every 24 hours. Patient continued to have complete symptomatic relief.

On December 6, the prontylin and sodium bicarbonate were reduced to gr. 10, t.i.d He was dismissed from the hospital on this date. Examination of the shoulder showed no swelling; no tenderness. Active motion was started, and abduction was limited to an angle of about 45 degrees. He was dismissed and instructed to take prontylin, gr. 5, and sodium bicarbonte, gr. 5, three times daily.

He returned to the clinic for examination on December 8. He stated that he had had no more pain and that the motion in his right shoulder was greatly increased. He had had no urethral discharge, frequency, or burning. The findings were as follows: Temperature, 98; pulse, 88; blood pressure, 140/90. Patient was somewhat nervous. There was an erythematous mottled rash over the anterior chest wall. There was no swelling or tenderness of the right shoulder joint. He was able to abduct his arm to 90 degrees without pain.

Examination of the prostate was negative.

X-ray of the right shoulder was negative.

Two glass specimens of urine showed both to be slightly cloudy.

Prostatic smear showed 25 w.b.c. per high power field; it was negative for gonococci.

Urinalysis: Alkaline reaction, Sp. gr. 1.016, no albumin, no sugar, microscopic examination of the sediment was negative. R.b.c., 3,360,000. W.b.c., 11,550. Hemoglobin 68 per cent (Sahli).

Prontylin was discontinued. Patient was instructed to take 15 gr. of sodium bicarbonate daily. He was also given Feosol tablets, 1 t.i.d.

December 15: Nervousness much less. Rash practically cleared up. Ten pounds gain in weight the past week; absolutely free from pain in right shoulder, with complete function. No urinary symptoms.

R.b.c., 4,370,000.

Hemoglobin, 78 per cent (Sahli).

Conclusions

The points of interest in this case are:

First: After three weeks of unusually severe pain, with a daily temperature of 101, and considerable loss of weight, within 24 hours patient was entirely relieved of pain and temperature.

Second: The improvement continued, without any recurrence of symptoms, and patient was completely and entirely recovered in less than two weeks after the treatment with prontylin was instituted. Furthermore, there was no evidence of gonorrheal urethritis.

Third: His red blood count, after eight days of prontylin treatment, dropped from 4,440,000 to 3,360,000, and hemoglobin from 80 per cent to 68 per cent. However, by December 15, just one week after prontylin was discontinued, his red blood count was back to 4,370,000 and hemoglobin 78 per cent. With the discontinuance of the prontylin the erythema on his chest cleared up and the blood picture came back to normal.

Experience With the Use of Larostidin
Case Report

Geo. H. Niemann, M.D.
Ponca City, Oklahoma

Patient

Mr. R. C. H. Age 53. Married 21 years. Occupation: manager of cafe. Hospital No. 21,959.

At the age of 15 the patient began to have attacks of gnawing pain localized in the mid-epigastrium, which appeared about two hours after eating, and which were always relieved by milk, food, or soda. The attacks lasted on the average of one to two months, and always occurred in the fall and in the spring of the year. These persisted until he was 41 years of age, at which time they became more prolonged and more severe in nature. He placed himself on a milk diet for a year. Following this he was symptom free for one year. At the end of this time, however, he developed a recurrence of his pain, which occurred after every meal, and also at night. He became extremely nervous and began to lose weight. These symp-

toms persisted for four years, during which time he obtained most relief from soda bicarbonate.

When he was 47 years of age, in 1932, a perforation occurred in the region of the pylorus. He was operated upon 12 hours after the perforation. Plastic was performed at the site of the perforation. The patient made an uneventful recovery, except for a post-operative ventral hernia. He was then symptom free for three months, at the end of which time he again developed a recurrence of his former symptoms, with remissions and exacerbations up to October, 1936, at which time he was 51 years of age. At this time he was having attacks of weakness and passing black, tarry stools. There was progressive weight loss and pallor. In December, 1936, he vomited about one quart of bright red blood. In February, 1937, he again had a large hematemesis and passed bloody and tarry stools.

He was admitted to the Ponca City Hospital on March 5, 1937, at which time he was semi-comatose. Blood counts at that time were: Hemoglobin, 30 per cent (Sahli); R.b.c., 1,700,000; W.b.c., 6,100; differential, polymorphonuclear neutrophils, 65 per cent; lymphocytes, 32 per cent; monocytes, three per cent. He was given a direct blood transfusion of 560 c.c. from a suitable donor. Following the transfusion, he was given 24 daily intravenous Larostidins, 5 c.c., with instructions as to diet, which consisted of soft foods, cereals, tender vegetables, and milk. Following several intravenous treatments of Larostidin, he became symptom free and all hemorrhage ceased. He gained 25 pounds in weight.

In April, 1937, following the completion of the course of Larostidin, he developed symptoms of pyloric obstruction. He was unable to retain any food. X-ray of the stomach at this time confirmed the diagnosis of complete obstruction due to stenosis at the pylorus. On July 10, 1937, a routine posterior gastro-enterostomy and repair of a ventral hernia were performed.

Operative findings: At the gastric side of the pyloric ring there was scar tissue which caused a complete stricture in this region. No evidence of previous ulcer could be found; it was taken for granted that the ulcer was in the region of the stenosis. There was no evidence of malignancy. No pathologic mesenteric glands were found.

This was followed by an unusually rapid recovery, and patient was dismissed from the hospital on July 18, 1937, eight days after his operation. Since that time he has been absolutely symptom free and has gained 45 pounds in weight.

Examination on December 18, 1937, revealed the patient to be in excellent condition; weight 170. Abdominal examination revealed no masses or tenderness. Incision was well healed. Blood counts: R.b.c., 4,030,000; hemoglobin, 75 per cent; W.b.c., 7,200.

Conclusions

First: This man evidently suffered from the effects of a recurrent gastric ulcer since the age of 15, or for 38 years.

Second: He has remained on an exclusive milk diet for as long as a year at a time.

Third: He has been placed on sippy diet and modified gastric ulcer diets at various times. During this period he used soda most of the time for relief.

Fourth: Recently he had several severe hemorrhages.

Fifth: He has had one definite perforation.

In this particular case 24 treatments of Larostidin firmly and completely healed the ulcer to the extent of causing a complete stenosis as a result of scar tissue formation.

Sulfanilamide Derivative Named

Recent reports from investigators indicate that a pyridine derivative of sulfanilamide [2(-aminobenzene-sulphamido) pyridine or sulfanilamidopyridine] is apparently more promising in the treatment of certain types of pneumonia than sulfanilamide itself, the Council on Pharmacy and Chemistry of the American Medical Association says in The Journal of the American Medical Association for January 7.

A number of investigators, and manufacturers as well, requested the Council to coin a nonproprietary designation for this product. The Council has therefore adopted the term "sulfapyridine" (sulf-a-pyr-i-dine).

The product is in an experimental stage and according to present information the government has not licensed it for interstate sale. The Council will publish a preliminary report on this product in the near future.

Social Diseases at the Cross Roads

HORACE H. PORTER, M.D., ROBERT B. WITCHER, M.D.
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About three decades ago a golden era of experiment and discovery permeated scientific mind and science. One need only ponder momentarily on master minds such as Metchnikoff, Roux, Neisser, Bruck, Schaudinn, Wassermann, Bordet, Hoffmann, Fournier and Ehrlich. Too often the name of the young fourth year medical student, Maisonneuve, is omitted from this illustrious group. One need tarry briefly to realize that in this period (1900-1910) the attack on venereal diseases made great advances, diagnostically as well as therapeutically. The identification of the causative organism, the development of the serological test, the transmission of the disease by animal experimentation, and the differentiation of gonococcus and treponema pallidum, associated with means of chemotherapeutically preventing transmission, led to a crowning event; namely, the use of arsenic and mercury therapeutically.

The venereal disease problem is as old as civilization, and Moses, the lawmaker, was probably the first public health administrator and sanitarian. Religious laws and moral issues have been handed down through the centuries, and regulatory themes have always followed a well formulated policy emphasizing the moral attack and appealing to the finer instincts related to the doctrine of sexual abstinence before marriage and later faithfulness.

Public health measures for control and attacks on commercial prostitution have opened the way for careful consideration of the issues involved. Nature will have its way, but regulation and persuasion appeal only to the minority. It would thus appear that some element is being omitted from this large program. Social diseases instead of diminishing have spread to other strata of society. It is far more important to prevent these diseases than to impotently attempt to treat and cure them.

A large university clinic, with all its intellectual setting and prowess, admits that, roughly speaking, only 15 per cent of the patients return for adequate continued treatment. What has happened to the 85 per cent who, in later years, will become economic burdens to society? Social diseases cannot be eradicated by inflicting extremely painful therapeutics on the unfortunate victims. The chief difficulty lies in the fact that the initiation of treatment is too late—even in a vast majority of early cases. The most expert clinician would not minimize the dangers associated with antisyphilitic therapy. One need only turn hastily to the writings of Stokes, and also Kolmer, to appreciate the apprehension in the minds of experts. These apprehensions soon permeate the minds of the patients and offer sufficient reason for the poor follow-up.

Our contention has always been that those who are infected should be gently and adequately treated by the best methods known to medical science. On the other hand, it has been our opinion that preventive measures should be used by the uninfected. We, therefore, feel that social hygiene is at the crossroads. One must not become blinded to the fact that society is living in an age of preventive medicine, and it should be a simple matter of educational appeal and regulatory laws for marriage and pregnancy. Certainly, in this day and age, one would not suggest pasteurization *after* a milk-borne epidemic, or vaccination *after* an epidemic of small pox, or antitoxin *after* an epidemic of diphtheria, or treatment of the water supply *after* an epidemic of typhoid. What has been responsible for this state of improved health? *Preventive medicine and sanitary codes!*

The social disease program has been most thoroughly presented, and adequate funds have been available for educational purposes. It should be emphasized that a most thorough task has been accomplished,

notwithstanding the fact that the "spirit is willing but the flesh is weak." However, regarding therapy the situation is much beclouded and the end results uncertain. Then, too, much is to be desired in regard to prognosis.

Prophylaxis is not a new thought, immature, or even mellow with age. It is one that comes into every mind day in and day out. Youth, in particular, carries with it that spirit of adventure and daring, always hoping that, just this once, escape is still within its reach. So youth and middle age present a serious problem—one that must be met and solved to safeguard the citizenry.

Many prominent thinkers along public health aspects have presented their views in the medical literature. Carrier[1] as early as 1905 stated "Venereal diseases exist in every community to such an extent that an imperative demand is made for prophylaxis. Medical pessimism in this matter of prophylaxis must be eliminated." Eytinge[2] in 1909 reported from the U.S.S. Ranger and Concord, that it was conclusively shown when the ointment (calomel) was used, venereal diseases were avoided. On the U.S.S. Ranger there were 256 exposures and no infections.

During the war the prophylactic package gave excellent results. However, the statement is always emphasized that these results only occurred in military organizations and could not be obtained among civilians. This particular point will be taken up in our discussion. The fact remains, however, that preventive measures are scientifically and logically correct when these measures are used. It is the system that is wrong and not the sanitation.

Phelps, Commander, U.S.N.[3], in 1925 comprehended the fault in the preventive plan of the naval personnel and indicated that often solutions injected into the urethra are irritating and cause much pain which militates against their use. This, naturally, cuts down the effective control of venereal infections.

Vonderlehr, et al[4], state "It is recognized that local chemical or mechanical prophylactic measures scientifically applied may be important factors in the prevention of syphilitic and gonococcal infections. Physicians in clinics and private practice should be encouraged to include such measures in their practices. In view, however, of actual experience which thus far has shown difficulties in the way of the general application of these measures, it is further suggested that the Public Health Service continue experimental studies of such procedures for effectively incorporating prophylactic measures in the general program."

Later, Vonderlehr[5] further states "Studies pertaining to the prophylaxis of syphilis have also been prosecuted. Recent work on laboratory animals demonstrates not only the effectiveness of prophylaxis when properly applied, but proceeds a step further to indicate the mode of action of the prophylactic agent. It has been shown that the prophylactic action of mercury, for instance, is dependent not only upon the local spirocheticidal action of the drug but also upon the fact that the mercury through absorption has a systemic action which inhibits the development of the causative organism of syphilis. This point was proved by failure to produce a chancre in rabbits in which the glans penis had been exposed to virulent spirochete emulsions without the subsequent application of the mercury to this area. The drug was applied to the skin of the back and protected a large percentage of the exposed animals."

The Advisory Committee of the U. S. Public Health Service[6] recently stated "Gonorrhea and syphilis are so closely related, epidemiologically, that the administration of programs for their control may be considered as one problem. There is, in our opinion, every reason for proceeding as rapidly as possible with the control of both diseases. The incidence of gonorrhea is at least twice and probably three or four times that of syphilis. What it may lack in ability to kill, it makes up in morbidity and numbers. Since it may be acquired repeatedly, it is often a recurring cause of poor health and economic loss. The complications of gonorrhea are neither rare nor lacking in seriousness. Gonococcal ophthalmia neonatorum, gonococcal infections in girl children, and gonorrhea in married women account for almost as high a proportion of innocent infections with gonorrhea as with syphilis. The sterility which follows gonococcal infection is permanent,

whereas men and women with syphilis can have healthy children."

This committee offered the following specific recommendations: "It is recommended that physicians in clinics and private practice be encouraged to promote local chemical or mechanical prophylaxis; that the United States Public Health Service determine what constitutes a reliable prophylactic; and that the recommendations of the United States Public Health Service be given support of national legislation in order that only approved material may be offered for sale. It is likewise recommended that the prophylaxis of gonococcal ophthalmia neonatorum be completely reviewed to determine whether or not it should be the subject of national legislation and whether the simple application at birth of any prophylactic is sufficient for the prevention of ophthalmia neonatorum."

Moore[7] states "Unlike many other infectious diseases, syphilis is not preventable by elimination of the contact which causes it, by experimentation of an intermediate host, by immunization, or by quarantine. Efforts to control the disease by reducing the number of sexual contacts of human beings have failed." In discussing mechanical, chemical, and chemotherapeutic prophylaxis he believes that "all of these methods are effective in experimental animals, and three of them, mechanical, chemical and chemotherapeutic (with bismuth) prophylaxis have demonstrated their value in men." Moore further points out that these measures offer protection for the men only, and that owing to ignorance, laziness or carelessness syphilis in civilian life cannot be controlled. However, he believes that mass prophylaxis of social diseases can be accomplished and is the best solution now available. "I may perhaps be forgiven if I emphasize the point that the value of prophylaxis and treatment in the control of syphilis depends almost entirely on the state of mind of the public health officer."

Wolbarst[8] makes a constructive suggestion in his statement: "If we cannot make men virtuous let us at least try to make them cautious." He believes that the one vital measure of defense against social diseases which offers the greatest promise of success has been almost entirely neglected. Also, that an attack at the source is the method of choice and that a totally new method of attack must be developed and put into operation. He further believes that chemical and pharmaceutical ingenuity will produce an ointment or vaginal suppository that will protect against gonococcus and other living organisms alike, and that "the medical profession, public health officials, social workers, and the public generally must accept the fact that it is *just as moral to prevent venereal disease as it is to cure it—and it is much less expensive.*"

In an introductory manner, it is important to quote Chesney[9]:

"If the detection of the infectious carrier of syphilis is difficult, and that fact everyone would grant, then one naturally turns to the question of protecting the individual who runs the risk of infection. Can the laboratory contribute anything to this problem?

"As everyone knows, it has been clearly demonstrated that there are chemical substances which when properly used under controlled conditions will actually prevent syphilis from being contracted even when exposure has occurred. The universal experience has been that this type of prophylaxis works well in military organizations but loses its effectiveness in civilian life. We need not here go into the reasons for that failure, but at the same time we should not let it keep us from studying the subject further in order to obtain a clear understanding of the limitations of any particular method of prophylaxis. Moreover, we may profitably seek better methods than those in our possession at the present time, and in this search the laboratory can be of the greatest assistance. It is well at this point to remind ourselves that practically no attempt has been made to discover a method of prophylaxis against syphilis which would be effective in women. Is the problem insoluble? I doubt it."

Chesney's comments represent one of the first occasions on which a new approach to the elimination of social diseases has been presented.

Much has been written on the ways and means of preventing venereal diseases. In fact, more than three decades ago Weiss[10], Chairman of the Committee on Prophylaxis of Venereal Diseases said "the dan-

gers of venereal disease to the people, their socio-economic importance, their causing premature invalidism, are of sufficient moment for all governments to exert their utmost to cope with them."

What have the governments been doing in 35 years? From a therapeutic point of view, nothing has been done. The meager answer has come from private sources. With the exception of Chesney, no one has at anytime proposed the protection of the female and thus break the chain of infection.

In an editorial by Moore[11], one is impressed with the remark "Syphilis is an entirely preventable disease." This author, as well as many other prominent public health investigators who have endorsed and urged the use of prophylaxis, neglected to consider the female as a vehicle whereby syphilis and gonorrhea could be stamped out. As dogmatic as many of the moralists may be, few, if any, are cognizant of the real suffering associated with these social aspects of life, and it must be agreed that woman suffers most.

With these ideas in mind, our attack on this problem led us to consider the insecurity of mechanical devices. Moore[7] reported that these devices are more or less imperfect. Many preparations used are toxic and accumulate poisons as well as being relatively inert in preventing syphilis and gonorrhea. Unfortunately preventives are few, and insofar as is known not effective for both diseases. This a serious drawback because the two diseases are often concurrent.

Years of experience have shown that these practices are unsatisfactory, and the question arose concerning the properties required of a preventive. It was felt that a preventive for syphilis and gonorrhea must exhibit the following properties:

1. Effective for male and female simultaneously.
2. Nontoxic to the human being, showing no irritation to the exposed tissues, either immediate or delayed.
3. Its protective action must be immediate, not localized but spreading over all the surfaces that are subject to *genital* infection.
4. The action must be so prolonged that the causative organism will be destroyed.
5. It must be used in such a quantity that both the male and female genitalia will be completely covered by a film necessary for protection.

Beside the above, the product would have to be easily applied and available to patients in all walks of life.

After considerable physical, chemical, and bacteriological studies, progonasyl was devised. This is a combination of triethanolamine, mineral oil, oleic acid, vegetable oil and organic iodine.

Most products to be induced into the vaginal vault are introduced at their *maximum* germicidal value and rapidly lose this quality. This product is in direct contrast. It is a very light oil adhering to and rapidly covering all mucous membrane surfaces, soon forming a tenacious jell. This jell is developed by the admixture of moisture from the mucous membranes. Its viscosity is low, and it spreads to all the surfaces rapidly, thus enmeshing and absorbing from diseased surfaces all debris and protozoal life, causing devitalization by means of desiccation or osmosis. This point can be shown by dark field examination. The effect lasts from seven to 15 hours, thus offering protection to both the *male* and *female before* infection takes place.

Due to the fact that progonasyl is used in its natural state, and upon its introduction into the vaginal vault it absorbs moisture until a definite jell is formed, the following findings were based upon the action of the jell and not upon the clear oil base, and timed from the formative period.

Thirty seconds are required to mix the oil with the organisms (with slight additional moisture) to produce a jell of maximum value. This time value is constant for the following tests:

Temperature of admixture	20°C.
Temperature of incubation	37°C.
Incubation time	48 hours
Media used	Beef Infusion Nutrient agar, blood agar and Gradwohl medium.
	1 loop of bacteria (from slant) to 10 loops progonasyl.
Reaction	6.7—7.6

Name of Organism	Time to Inhibit Growth
B. typhosis	2 minutes
B. para typhosis A	2 minutes
B. para typhosis B	2 minutes
Gonococcus	2 minutes
B. dysentery flexner	5 minutes
Staphylococcus aureus	5 minutes
Staphylococcus citreus	8 minutes
Streptococcus pyogenes	8 minutes
B. coli	8 minutes

Attempts to culture the treponema pallidum in all time intervals were negative in the anaerobic methods, and dark field illuminations were made to determine what effects, if any, were produced upon the physical body.

Fresh serum from a primary syphilitic lesion was covered lightly with a cover glass and brought into proper focus. At the edge of the cover glass was placed a few drops of progonasyl and, upon bringing the dark field again into view, the oil was allowed to contact the edge of the cover glass and to become mixed with the serum containing the T. pallida. Upon contact there is an immediate and rapid flow of the serum to the oil, carrying all organisms with it. This movement then slows down and a slight reverse action takes place when a portion of the iodine (?) value is released to give a very pale yellow stain to the blood cells. At one and a half minutes after this reverse play is started, the treponema becomes immobile.

The second step is the action of the *oily emulsion* upon the treponema body. Upon contacting the advancing jell formation the treponemata are pulled into the jell body and at this time relax their spiral formation (as in a stained specimen or section). The action of this advancing jell formation presents a constant molecular bombardment for a period of 30 minutes in the very thin layer of material contained between the slide and the cover glass. This molecular bombardment is not noted when brought into contact with water, but apparently results as an interchange with the protein value of the exudate. After this molecular bombardment *front* of the jell formation has passed, the fine emulsion remains holding the organisms enmeshed.

The rapid rate of action of cultural methods proved the high germicidal activity in the colloid where there was an increasingly greater action developing in contra-distinction to usual germicides which are applied at their maximum value while their activity diminishes at a rapid rate accompanied by the high physiological toxicity. It is our belief that this is the first attempt to produce high germicidal activity as carried by a colloid, as well as to subject organisms to hydrophilic action as a means of devitalization. The hydrophilic colloid thus formed will produce desiccation of all types of unicellular protozoa.

Toxic action was studied by means of oral administration of several tablespoonfuls of the oil to laboratory workers. This was repeated on several days and it was noted that mild catharsis was the only effect of the oil.

Ultramicroscopic tests showed that this substance, designated as progonasyl, readily took up moisture developing a cloud which was shown later to possess the ability to enmesh protozoal organisms. The dark field microscope also clearly demonstrates this tenacious jell formation based on the principles of osmosis. This jell is thirsty for moisture and consequently withdraws moisture from protozoan forms of life, or from simple protoplasm. Organisms are enmeshed in the jell and are soon devitalized. The oil shows no surface germicidal action and in this respect differs from all other prophylactic agents.

In order to ascertain its irritating action, it has been applied as an ointment on eczematous lesions with a soothing effect on the broken skin surfaces. Following this, it was used on more than 200 cases in which there was present marked vaginal discharge as well as local irritation. The duration of this condition varied from a few weeks to several years. Laboratory examination before treatment showed the presence of trichomona, B. coli, and other nonspecific organisms. Much to our surprise, the bacterial irritation present at first examination gradually subsided. In a great many cases it completely cleared, and the mucous membranes became negative bacteriologically. Needless to say most of these cases were still clear after a lapse of several months. These clinical observations have been confirmed by several of our colleagues. In our opinion there was a complete absence of irritating action. Furthermore, it is believed that the product was efficacious in removing much of the debris and discharge.

The above experiments were repeated on a group of patients suffering with vaginitis. In this group more than 75 patients were examined and treated. In

most instances 5 cc. of oil were injected into the vaginal vault for a period of 10 days. A daily douche was employed, and in every instance the mucous membranes became healthy and entirely normal. Certainly, if the oil had any irritating action it would have caused increased irritation and discharge. This last experiment was checked by at least four clinicians. It is our firm belief that this oil can be used indefinitely without irritation or ill effect. Furthermore, it is our opinion that daily instillation of the oil, followed by douches on the next morning, constitutes a bland, safe, and efficient method of treating trichomonal infections.

Our success with this type of case led us to make a study of all types of vaginal disorders. Among these, 30 cases of acute and chornic gonorrhea (police characters obtained from the clinic) were treated daily with progonasyl. No thought of cure was in our minds. The above mode of treatment was applied to this group with encouraging results, insofar as relieving the discharge was concerned. It was later learned that several of these women had returned to their usual mode of living and that, when this product was previously applied to the vaginal vault, the males with whom they had contact did not become infected.

It occurred to us that by this method a break in the chain of infection might be obtained, thus preventing the spread of social diseases. Earlier in this report, attention was called to the suggestions of Chesney[9] and it appeared to us that this solution of the problem was at hand. Insofar as the literature at our disposal is known, the female has not previously been used successfully as the vehicle whereby the spread of venereal diseases may be curbed.

Our thoughts then turned to the historic Metchnikoff experiments on syphilis. In our experiment with gonorrhea, there was the added knowledge that it could be cured in a large percentage of cases if infection should result. Our experiments and observations in previous cases have been so favorable that protection was almost certain. On this basis it was decided to seek volunteers for carrying out this more crucial test. As stated above, the females who were infected with gonorhrea and who used this oil did not infect their male partners and, therefore, it seemed plausible that the reverse should likewise follow.

Four women and two men volunteered for this experiment. The four women, designated as patients A, B, C, and D, were first carefully examined clinically, smears were taken and examined microscopically, and these four women were found to be free from gonorrhea. They were further questioned as to whther they had previously had any infection. The tests and clinical history were negative and they were confined in locked apartments that had been carefully searched, and the water supply had been turned off. They were under the constant supervision of at least one of the clinicians and a maid. The clinical and microscopical examinations were repeated with negative results. Their meals and other necessary articles (newspapers, drinking water, magazines, cigarettes, candy, etc.) were brought to them by the maid under our supervision. Careful search was made to prevent access to any drugs or medicaments. No accessories of any kind were permitted except sleeping apparel.

The two males, designated as "E" and "F," were examined and found to have acute gonorrhea. One had the disease for seven days, and the other for ten days. Microscopic examination from each of these men showed an abundance of characteristic intracellular and extracellular gram negative diplococci. Clinically, the condition of both men was that of severe gonorrhea.

Injection into the vaginal vault of 4 cc. of the oil was made by one of us in the presence of the others. Male E and female A, and male F and female B were permitted to indulge in sexual relations. After a few hours, the two men were permitted to return to their apartment, and the women were confined to their apartment for ten days, a clinician and a maid being in constant supervision.

After a few hours rest, the same two men were permitted to have sexual relations with females C and D. These latter two patients were similarly maintained in their apartments and the two men discharged. In all four instances examination of the females showed the presence of spermatozoa. During the period of deten-

tion the women were not permitted to take any baths, and only had water for drinking purposes and for washing their faces and hands. On the ninth day a vaginal douche of plain warm water was permitted for cleansing purposes. On the tenth day, clinical and microscopical examinations of the four women were made and the vaginal smears examined by each of us were found negative. Later examination similarly showed the absence of gonococcus and gonorrhea.

In our many years of experience, an occasional exposure fails to show the presence of a suspected infection. However, it is our belief that such could not have happened in the case of all four of these women. It is our opinion that the oily preparation was solely responsible for the protection of these women against infection.

It was realized that the experiment carried out above might be criticized from the point of view that no control was employed in which the injection of the oil was omitted before mating with one of the infected men. To answer this criticism, an additional set of experiments was made with an entirely different group of patients. For this purpose two women, hereafter known as G and H, were carefully examined clinically and smears were taken and examined microscopically by three observers. G and H were found to be free of gonorrhea, and their clinical history showed that there had been no previous infection. One man, hereafter referred to as I, was examined and found to have an acute gonorrhea of six days duration, and showed clinical symptoms of the acute stage. Microscopic examinations of the discharge, made separately by each of us, showed an abundance of characteristic intracellular and extracellular gram negative diplococci. Clinically, the condition was that of a severe, acute, gonorrhea. The two women were maintained in constant supervision of one or more of us and a maid in a locked apartment, under the same conditions heretofore described. G and H were again examined clinically and microscopically for any possible evidence of gonorrhea, but were found negative. Four cc. of the oily medicament was injected into the vagina of woman H, whereas woman G received no medication whatever. I and G were permitted to have intercourse and the spermatozoic discharge was found.

After four hours woman H had intercourse with male I and again spermatozoic discharge was found. The man was dismissed but the two women were confined under lock and key in the apartment for ten days. Their meals and other necessary articles were brought to them in the same manner as described in the first set of experiments. At the end of the third day female G, who had not been injected with the oily medicament, was examined and the microscopic study showed gram-negative, extracellular diplococci. Clinically, there was no evidence of gonorrhea. At the end of the fourth day examination was again made and a slight discharge noted. Microscopic examination of the discharge showed gram-negative, intracellular diplococci, and the clinical condition was that of gonorrhea. On the day following the patient was treated with sulfanilamide, according to the method of Van Slyke and Mahoney[12] from the U. S. Public Health Service. She responded promptly at the end of ten days, and has since remained cured.

Female H was kept under supervision for ten days and at no time showed any evidence of discharge or any microscopic condition simulating gonorrhea. At the end of the eleventh day she was examined clinically, and by means of vaginal smears and then released as not having contracted the disease. Further observation of this patient showed no infection.

It is our opinion that, in this set of experiments, the most exacting requirements of science have been made, proving that the oily medicament, without question, protects against gonorrheal infection.

As a result of our experiments, it is believed that the oil employed by us exerts real germicidal action on various types of unicellular organisms. It has the power to destroy gonococcus and similar organisms promptly, and at the site of infection. It forms a hydrophilic colloid when exposed to the moisture from the mucous membranes and produces its germicidal action by virtue of its desiccating effect on organisms. This is in contrast to the action of most germicides which act at maximum concentration at the surface.

According to our information, this is the first time that the female has been offered the protection of prevention by physical chemical means in relation to social diseases. Our experiments indicate that the oil is non-irritating when applied to the mucous membranes even over a long period of time and that it in no way disturbs the normal sexual functions when its use is discontinued. It offers a mode of protecting the male and female simultaneously, and yet it is so nontoxic that one can take large doses by mouth without any injury.

In the various types of experiments that have been carried out, its use has been applied to approximately 400 females, and in no instance has there been the slightest deleterious action. These experiments have proved conclusively that it protects non-infected females from infection even though they may be exposed to infected males, and vice versa.

It further appears that it is simultaneously a preventive for both syphilis and gonorrhea and economically within the reach of all. As a contribution to diminishing the incidence of venereal disease, it seems to offer many possibilities.

Recognition is given to Dr. Allen C. Kramer, Dr. W. A. Dean and to Dr. Samuel J. Bradfield for their collaborative work.

BIBLIOGRAPHY

1. Carrier, A. E.: Venereal Prophylaxis. J. Michigan State Medical Society, September, 1905.

2. Eytinge, E. O. J.: System of Venereal Disease Prophylaxis and Its Results. Military Surg., August, 1909, p. 170.

3. Phelps, J. R.: U. S. Naval Med. Bull., July, 1925.

4. Vonderlehr, R. A., et al: Recommendations for a Venereal Disease Control Program in State and Local Health Departments. Report of an Advisory Committee to the U. S. Public Health Service. Am. J. Syph., Gon., and Ven. Dis., 20:1, January, 1936.

5. Vonderlehr, R. A.: The Relationship of Venereal Disease Control Work in the U. S. Public Health Service to the Physician in Private Practice. Am. J. Syph., Gon. & Ven. Dis., 21:32, January, 1937.

6. Report of an Advisory Committee: Recommendations for a Gonorrhea Control Program. Ven. Dis. Inf., 19:1, January, 1938.

7. Moore, J. E.: Prophylaxis and Treatment in the Control of Syphilis. Southern Med. J., 30:149, 1937.

8. Wolbarst, A. L.: Suggestions for More Effective Venereal Disease Prophylaxis. Medical Record, August 18, 1937, p. 149.

9. Chesney, A. M.: Research Needs in the Control of Syphilis. Am. J. Syph. Gon. & Ven. Dis., 21:121, March, 1937.

10. Moore, J. E.: Editorial—The Prophylaxis of Syphilis. Am. J. Syph. Gon. & Ven. Dis., 20:683, November, 1936.

11. Weiss, Ludwig: Report of Committee on Prophylaxis of Venereal Diseases. J.A.M.A., 40:1317, May 9, 1903.

12. Van Slyke, C. J., Mahoney, J. F., and Taylor, J. D.: U. S. Public Health Service. Ven. Dis. Bull. Vol. 18, No. 12, December, 1937.

Lymphopathia Venereum*

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Lymphopathia venereum is a specific, indolent infectious disease due to a filterable virus which is transmitted by sexual intercourse, and for that reason many have termed it the "fourth venereal disease."

The term "lymphopathia venereum" if universally adopted is preferable to lympho-granuloma-inguinale and will lead to less confusion for it will give a more accurate conception of the disease, and yet will embrace the various extra-inguinal localizations that are now recognized as being of identical etiology.

There is no doubt as to the prevalence of this infection in the United States, and, quite contrary to past belief, it occurs with about the same frequency in the temperate and sub-tropical climates as it does in the tropics. Undoubtedly in the past the failure of recognition was the inability of the physician to diagnose the condition.

Lymphopathia venereum affects young male adults more often than females and is characterized as a sub-acute, resistant inflammation of the inguinal lymph glands, often resulting in suppuration, abscess formation and chronic fistulas, with a tendency toward healing by retractile scarring and fibrosis. The incubation period, according to Hellerstrom, is from 10 to 30 days and dates from the time of exposure to the appearance of lymph gland involve-

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Fig. I—Bi-lateral inguinal involvement with draining sinuses.

ment. Because of anatomic differences in male and female lymphatic structures, superficial and intermediate inguinal disorder in the female are the exception rather than the rule.

The lymph drainage of the male genitalia is directed almost entirely into the inguinal lymph spaces and then into the deep iliacs. Therefore, when the initial lesion is on the external genital, these nodes become affected. In the female the anatomy of the lymph drainage is quite different. Only the lymph from the vulva is directed into the inguinal lymphatics while that from the vagina and cervix drains into the lymphatics around the rectum. This explains the frequent dissimilarities of the disease in the two sexes.

In women the disease more often presents itself in the deep pelvic and perianal lymphatics, therefore the later manifestations are more commonly seen. After running an indolent, chronic course, the disease resolves itself into esthiomene (chronic ulceration of the vulva with elephantiasis and sclerosis), and the genito-ano-rectal syndrome (ano-rectal syphiloma with stricture of the bowel). There may be no subjective symptoms in the female during the active stage of the infection until the appearance of the adenitis.

A careful history and physical examination will elicit the presence of a primary sore in about 50 per cent of cases. The history of a small, painless, non-indurated lesion on the genitals, appearing from three days to three weeks after exposure, which rapidly disappears in from five to ten days, followed by inguinal glandular involvement, should immediately lead one to suspect lymphopathia venera.

This primary erosion is usually dry with sharply defined edges and in the male usually presents itself on the glans penis or prepuce. In the female the portal of entry is often difficult to determine. Primary lesions of the external genitalia are rare, but when they do occur, they present themselves in the region of the fourchette or the vagina. Many of the infections in females undoubtedly occur through the vagina or cervix, in which case primary lesions would be unnoticed. Four types of primary lesions have been described: the ulcerated, nodular, herpetic and the lympho-granulomatous urethritis.

The onset of the disease is rather insidious and favors the appearance of a systemic infection resembling the symptoms so commonly noted in cases of a mild septicemia. A few days prior to the swelling of the lymph nodes, the patient suffers from slight headache, anorexia, dorsolumbar pains and generalized discomfort. These symptoms are followed in a few days by an inflammatory involvement of the lymph nodes. In men the first glands to be affected are those of the superficial group in the inguinal region, either the pubic glands or the medial group of the proximal sub-inguinal lymph glands, which lie in close proximity to Poupart's ligament. The disease progresses very slowly and extends from gland to gland, finally producing a peri-adenitis. Swelling of the

Fig II—Elephantiasis of the vulva with rectal stricture and fistulas.

glands is constant and variable, and tenderness becomes more pronounced as the swelling increases. The skin over the glands becomes reddened and, as the periadenitis develops, it becomes attached and fixed; matting of the glands is elicited as the disease progresses, usually after five weeks from the onset of symptoms. The iliac glands also become involved, and at this stage the skin over the affected glands takes on a purplish hue.

Along with the gradual development of peri-adenitis, chills, fever and night sweats are generally noted. There also develops a moderate leukocytosis, varying from 10,000 to 12,000, with a definite increase in mononuclears. Eosinophilia is more or less constant. Walking becomes more and more difficult, even though pain is not an outstanding symptom.

Eventually softening of the glandular masses occurs and definite fluctuation is noticed. This is usually followed by the appearance of one or more fistulas, which become inter-communicable. These interlacing channels give the affected area the usual honeycomb appearance. Thick, viscid, creamy, yellow pus may exude for a long period, which later becomes serosanguineous. Systemic symptoms often disappear long before the fistulas cease draining.

A most careful history and physical examination, together with the positive diagnostic test of Frei, are paramount to the correct diagnosis of lymphopathia venereum. The discovery by Frei in 1925 of the specific diagnostic intradermal test, which has been given his name, has greatly simplified the establishing of this clinical disease entity and has paved the way for all the successful research that has since been done in linking these various syndromes under one disease entity. The Frei test is extremely sensitive and most reliable, and if properly interpreted, is one of the most specific test substances in immunological use.

Histologically the principal picture is that of a sub-acute or chronic infectious granuloma with multiple abscess formation, the abscesses varying greatly in size and shape. The normal lymph node structure appears to be replaced by a diffuse granulomatous hyperplasia, composed of lymphocytes, plasma cells, epithelioid cells,

Fig. III—Histopathology of lymph glands.

fibroblasts and an occasional multinucleated giant cell of the Langhans type. Sharply demarcated from the hyperplastic surrounding pulp are numerous necrotic areas of varying size and shape, which appear both ramified and discrete. In the center of the abscesses are granular detritus, collections of polymorphonuclear leukocytes and small round cells. Surrounding these centers is a palisading of epitheloid cells and a few mononuclears. The capsule of the nodes shows great thickening and consists of dense, moderately hyalinized fibrous tissue, with little evidence of inflammatory reaction.

Numerous remedies have been advocated, but no single remedy is known to have specific therapeutic value, and, more certainly, no routine treatment can be recommended. The measures selected and resorted to will necessarily depend on a number of factors such as the form, stage of the disease, age and economic status of the patient. In patients where the diagnosis is made early before fistulas are formed, the treatment of choice is graded sub-cutaneous doses of the antigen; although intravenous injections of tartar emetic have also influenced the course of the disease. It is now generally accepted that surgical excision of the glands and fistulas is the therapeutic measure of choice in all cases of suppurative adenitis. This procedure in almost all cases results in a cure in from four to eight weeks, even though there is involvement of the deep glands.

My purpose in this paper is to show that lymphopathia venereum is a definite dis-

ease entity of venereal origin and has the possibility of grave consequences.

It should be handled with the same administrative methods and control as are gonorrhea and syphilis. It is hoped that the medical profession wil become more interested in this condition, so that fewer cases will pass undiagnosed. The problem is more than a dermatological or urological one for it involves greatly the field of internal medicine, surgery, and pathology. With regard to this disease, the surface has only been scratched as far as present knowledge is concerned, and with the proper stimulation and interest on the part of the medical profession at large much may be attained.

Individuality in the Treatment of Fractures Into or Near Joints

FRANK A. STUART, M.D.
TULSA, OKLAHOMA

The purpose of this paper is to stress upon you the importance of (1) individuality in the treatment of fractures into or near joints, (2) promptness, (3) gentleness, and (4) thoroughness. It is prompted by the fact that my own child when three years of age, fell from my fast moving car and sustained a fracture of the humeral condyles.

It is not within the scope of this paper to discuss in detail each type of fracture into or near a joint, but to bring to your attention some of the startling facts about a few of our larger joints that have been learned through actual experience and through the statistics of the men who have treated these types of fracture.

Fractures into the Shoulder Joint: A not unusual type is the so-called "fracture-dislocation at the shoulder." Here again the greater tuberosity may be fractured or the head of the humerus may be badly comminuted or the fracture occur through the surgical neck accompanied with dislocation of the head. Closed reduction usually fails to reduce the dislocated head and it becomes necessary to open up the joint, reduce the dislocated head and suture, preferably by stainless steel wire, the detached head or comminuted fragments after the fracture has been reduced. Some form of internal fixation "must be carried out," otherwise the fracture will slip, necessitating another operation. Rigid immobilization with arm at 45 or 90 degrees abduction is necessary. Early physiotherapy and passive motion is essential. The other fractures about the shoulder joint need only be placed on a traction humerus abduction arm splint, of course using skin traction.

Fracture of Humeral Condyles in Children and Adults: If complications are to be avoided here, immediately accurate reduction of the fracture with close alignment of the fractured surfaces must be accomplished. Such complications are (1) distortion of the epiphysis which will in years to come lead to a cubitus varus or valgus deformity, unstable joint and sometimes a tardy ulna nerve palsy, (2) if nutrition to the fragment is impaired, non-union or mal-union is likely to occur, and does usually with the closed method.

J. S. Speed reviewed 120 cases of fractures of the humeral condyle recently and concluded that (1) "Serious disability follows these fractures in children much more than is appreciated by the average surgeon treating fractures," (2) "Closed reductions are at best uncertain," and (3) "Immediate open reduction using wire nail (small finishing nails) gives the highest percentage of satisfactory results." His conclusions are borne out by the fact that I let sympathy stand in my way and tried closed

reduction on my child's arm and later resorted to open reduction. In compound fractures in this area, the method described by Dunlop in the Bone & Joint Journal, January, 1939, is recommended. Proper application of physiotherapy is of great value in restoring motion to these joints. Sometimes one may expect months to elapse before full range of motion is restored.

In adults this type of fracture is usually treated by resuturing the detached fragment, or if badly comminuted, by manipulation or skeletal traction, the Kirchner wire being put through the olecranon. The method introduced by Hugh Owen Thomas and popularized by Sir Robert Jones gives fair results and consists of flexing the elbow to 60 degrees and letting the fracture fall into alignment by its own hanging weight. Usually, however, we have impaired motion in these comminuted fractures through the condyles in adults and the ultimate amount of permanent disability cannot be determined for six months to one year. Physiotherapy here also is of great value.

Fractures of the capitellum are very rare. When they do occur the joint should be opened and the fractured piece either removed or nailed in place.

Fractures of the Head of the Radius: These may be treated either (1) conservatively, that is, when only a crack or a small fissure occurs and where there is no displacement, or (2) by surgical removal of the head of the radius in those cases where the head is comminuted or where a piece is broken off and where the head is fractured and tilted. The end results in either are satisfactory provided early physiotherapy is employed.

Fractures of the Wrist: The point that should be stressed here is not one of the various accepted methods dealing with the reduction of the most common type in this locality, namely, the "Colles' fracture," but rather to urge you the next time you reduce one of these fractures, not to be satisfied with the final position of the fracture until you have the radial side of the radio-carpal joint leaning forward about 10 to 15 degrees. This insures a normal return of flexion at the wrist. We know of no way yet to overcome the radial shortening we so frequently get in the Colles' fracture, therefore, the patient should be forewarned that this might occur.

Physiotherapy begun at the end of the fourth or fifth week, at first using heat and light massage, later passive and still later active motion, is of great value in these cases.

Fracture in the Hip Joint: Fractures of the neck of the femur usually occur within the joint capsule, which naturally makes them be classed as "into the joint."

Prior to the revived methods of "internal fixation," these fractures of the hip were either left alone or treated by Whitman's abduction method and cast. Since Smith-Peterson's paper in 1931 internal fixation or nailing of this fracture has again been widely used and the early end results show a decided advantage in favor of the latter method. By the Whitman method we got only about 50 per cent bony unions, but by the use of some type of internal fixation the results are as high as 90 per cent bony union. No casts are used after the hip is fixed by internal fixation and the patient is walking on crutches as early as three months, in our cases, with no ill effects.

Fracture of Tibia and Femur Involving the Knee Joints: When the fracture lines extend into the joint surface, either from the femoral or tibial side, it has long been known that the function of the knee joint is seriously if not permanently impaired.

Of 13,000 fracture cases on record at the University of Pennsylvania only 186 involved the knee joint. One hundred and thirty-four involved the upper end of the tibia while 28 involved the condyles of the femur. The outer condyles of the femur and tibia were the most frequently affected.

Here again the individuality in the treating of fractures must be borne in mind. Most men have in the past advocated closed reduction of these fractures, however, in some of the cases on which I have done a closed reduction, I have later wished I had done an open. The knee joint is one of our weight bearing joints, and any irregularity in the weight bearing surfaces usually produces either pain or instability or perhaps both, which, if present, means permanent disability.

Recently Thompson has brought forth what he calls the "beaded wire." This is nothing more than a Kirchner wire that has a knob of metal on it. We have used this with pleasing success in fresh fractures of either the condyle of the tibia or both condyles. The fracture is reduced, the beaded wire placed so that the head is against the loose fragment, and traction made by means of a special nut that pulls the bead up tight against the detached fragment which in turn holds the bone fragment against the shaft of the bone. Then the wire is incorporated in a plaster of paris cast. Here again early physiotherapy is very important and the mental attitude of the patient is greatly improved. Since the advent of a new metal, "vitallium," long screws or nails may also be used to a great advantage here. This metal never has to be removed.

Fractures of the Patella: If the fragments are separated or look as if they might easily pull apart, it is generally conceded that open reduction with resuture and close approximation of the surfaces should be done. Some men prefer chromic catgut or fascial lata, however, we prefer to use stainless steel wire. By the use of wire we find we are able to institute passive motion much sooner, without fear of separation of the fragments as the wire causes no trouble whatsoever and it may be left in indefinitely. The leg should be placed in full extension in a cast. Physiotherapy should be instituted relatively early in these cases in order to restore as much motion as possible.

Fractures of the Ankle: Here again is one of our weight bearing joints that literally bristles with trouble, due to the fact that a relatively small amount of limitation of motion may mean quite a high percentage of permanent disability. The causes of disability usually are (1) pain and tenderness, (2) weakness of ankle and foot and (3) stiffness.

There are many classifications of fractures of the ankle joint, but the ones of (1) external rotation, (2) abduction (fibula flexion), (3) adduction (tibia flexion), (4) compression, seem the simplest.

(1)—Fractures produced by an external rotation force, gives an oblique fracture or spiral fracture of the lower third of the fibula.

(2)—Fractures produced by abduction results in a fracture of the internal malleolus plus a fracture of the fibula in its lower third.

(3)—Fractures produced by adduction results in a fracture of both the external and internal malleoli.

(4)—Compression fracturs of the ankle joint are produced by a fall. The most common types are what Henderson describes as (1) "The tri-malleoli" or (2) "Marginal type of fractures."

In order to properly treat fractures of the ankle, one must understand just how they are produced. Usually conservative methods give satisfactory results in all fractures of the ankle except the "compression types" where open reduction may be necessary in order to restore a smooth joint surface. Reduction under general anaesthesia of the fracture and its retention in a plaster of paris cast usually suffices. Physiotherapy in the form of light massage at first, then passive motion and later active motion is most essential in concluding the treatment of fractures about the ankle joint because if we get a small amount of stiffness in the ankle joint, it results in a much larger percentage of permanent disability than in other joints. Properly applied physiotherapy to this joint also reduces swelling about the joint and minimizes residual pain.

In conclusion, I should like to stress the importance of:

1. Individuality of treating fractures near or into a joint. You cannot read a text book and then treat a fracture exactly as it says for each fracture case is a separate problem. Only very rarely do we see two fractures exactly alike.

2. Accurate anatomic reduction must be attained if an end result you would be proud of is obtained.

3. The fracture surfaces must be held rigid and when these fractures occur near a joint, the fracture can best be held by internal fixation then motion in the nearby joint can be begun much earlier.

4. Early passive motion preceded by heat and proper massage is not being done enough in our fracture work. Too often

we just put the patient under the lamp for 30 minutes, replace him in the cast and let him leave the office.

5. It is wise always to X-ray a fracture on the tenth day after reduction and if it has slipped it can be again reduced before callus has become deposited at the fracture site.

BIBLIOGRAPHY

Henderson, M. S.: The Open Treatment of Fractures, Illinois Medical Journal, January, 1927.

Moffat, Barclay W.: Bimalleola Fractures, Journal of American Medical Association, Vol. 90, P. 690, March 3, 1928.

Hendrson, M. S.: Fractures of the Ankle, Wisconsin Medical Journal, October, 1932.

Gill, A. Bruce: Injuries of the Foot and Ankle, Atlantic Medical Journal, May, 1928.

Eliason & Ebling: Non-Operative Treatment of Fractures of Tibia and Femur Involving the Knee Joint, Surgery, Gynecology and Obstetrics, November, 1933, Vol. LVII, 658-667.

Speed & Macey: Fractures of Humeral Condyles in Children, Journal of Bone and Joint Surgery, Vol. XV, No. 4. pp. 903-919, October, 1933.

Eliason, Eldridge L.: Individuality in Treatment of Fractures, Northwest Medicine, Seattle, Vol. XXXIII, No. 3, pp. 73, March, 1934.

American College of Surgeons: An Outline of the Treatment of Fractures, 1933.

John Dunlop, M.D.: Transcondylar Fractures of the Humerus in Childhood, Journal of Bone and Joint Surgery, January, 1939, p.p. 59.

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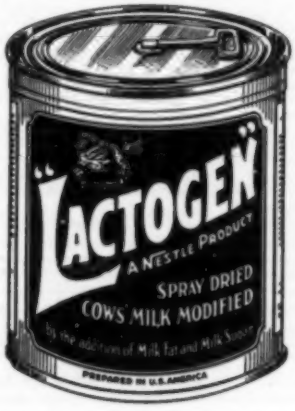

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McAlester, Oklahoma

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McAlester, Oklahoma

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EDITORIAL

POSTGRADUATE MEDICAL PROGRAM

The postgraduate program in obstetrics is still progressing into sections of Oklahoma where medical courses for doctors have never yet been given. The fourth circuit in the centers of Ponca City, Blackwell, Tonkawa, Tulsa, Cushing, Stillwater, Bristow and Sapulpa has just been completed. One hundred and twenty-five doctors took the course. Over 40 took it in Tulsa. Physicians are advising the Committee, so states Dr. Henry Turner, Committee Chairman, that it is the best course ever offered to doctors in Oklahoma. In addition, Doctor Edward Smith, the instructor, has given instruction on antepartum care to 14,700 women and high school and college girls. Some of the warmest letters of praise have been received by the Committee from Superintendents and Principals of high schools, Presidents of colleges and Deans of Women about the practical value of these lay lectures and asking, in fact pleading, for more of them and insisting that boys also should have them. Of course all these cannot be supplied, for the first object of the program is postgraduate instruction, and the instructor's time is therefore limited for this secondary part of the program. Such lay lectures are always arranged through the local medical profession. Many women have come into the doctors' offices, as result of being better informed about symptoms of danger described in Dr. Smith's lay lectures. One Payne county physician had 20 new cases in one week.

In Tulsa, the Tulsa County Medical Society thought so much of the value of these lay lectures that they "hired" Convention hall and set up a Public Health forum at the close of the course, having Doctor Smith hold a forum on antepartum care. This is unique in the history of Oklahoma, and a challenge to all other live-wire county societies.

During the week of January 30, the fifth circuit was opened in southwest Oklahoma and includes the teaching centers of Lawton, Frederick, Hollis, Altus and Hobart. This is the first time in history of postgraduate medical study under this circuit plan, that courses have ever been organized in Frederick and Hollis. Funds of the Commonwealth and State Health Department made this possible, for the limited doctor population of this area made self-supported courses in the past impossible. Naturally doctors of those centers and counties are most appreciative. In Harmon County every doctor in the county is enrolled. In Tillman county every doctor except one specalist in eye, ear, nose and throat, enrolled.

One hundred per cent enrollments in these counties shows the appreciation of the physicians over the program being brought to them. Doctor Smith states he has done $40,000 worth of consultations if it were placed upon a pay basis among members of his courses. But these are free private consultations with the doctors who are registered in the courses, and a part of the program outlined by the Com-

mittee. Doctors frequently realize fees from the outlined courses of treatment, agreed upon between the instructor and himslf, which pay many times his fee for the course, and in addition brings many patients back to health and earning capacity.

The Postgraduate Committee held a meeting in Oklahoma City Sunday, January 29, and Dr. Turner in his Chairmanship report of the first year's activities revealed: that 375 doctors had taken the course, that 14,700 laity had listened to instruction on antepartum care, that over 400 free and private consultations had been made by the instructor among doctors of the postgraduate groups. Further, that instruction had covered 38 of the 77 counties for the first year and that 24 teaching centers had been used. Virtually the entire east part of Oklahoma has now been covered. The instructor has driven 34,844 miles in his intensive efforts, as shown by his car speedometer. All in all this postgraduate course and program promises to be one of the most beneficial to doctors and people, of any during the past 12 years of postgraduate medical education in Oklahoma. A booth at the Annual State meeting this year will furnish statistical accomplishments and give doctors of sections not yet visited, exact information when their area will be reached. Visit your booth this year at the state meeting on Medical Education.

L. W. KIBLER, Field Director,
Post graudate Medical Education,
Oklahoma State Medical Assn.

PROTECTION FOR THE NEW-BORN

The Oklahoma Health Department is contemplating the introduction of a bill during the present session of the Legislature on Prenatal Serological Examination and the suggested form of the law follows:

OKLAHOMA HEALTH DEPARTMENT

State Prenatal Examination Law

The following model prenatal examination law based upon the laws passed by the states of New York and New Jersey has been prepared by experts under the auspices of the American Social Hygiene Association and is recommended for all states in the Union.

Detailed information regarding this law may be found in the November, 1938, issue of the Journal of Social Hygiene, 50 West Fiftieth Street, New York City (35 cents per copy while they last).

Additional copies of this law may be secured without charge by addressing Dr. Chas. M. Pearce, Commissioner, Oklahoma Health Department, Oklahoma City, Oklahoma.

"A Suggested Form of State Prenatal Examination Law"

Section I. Serological blood test for syphilis of pregnant women.—Every physician attending a pregnant woman in (name of state) during gestation shall, in the case of each woman so attended, take or cause to be taken a sample of blood of such woman at the time of first examination, and submit such sample to an approved laboratory for a standard serological test for syphilis. Every other person permitted by law to attend upon pregnant women in the state but not permitted by law to take blood tests, shall cause a sample of the blood of such pregnant woman to be taken by a duly licensed physician and submitted to an approved laboratory for a standard serological test for syphilis. The term "approved laboratory" means a laboratory approved for this purpose by the state department of health. A standard serological test for syphilis is one recognized as such by the state department of health. Such laboratory tests as are required by this act shall be made on request without charge by the state department of health.

Section II.—In reporting every birth and stillbirth, physicians and others permitted to attend pregnancy cases and required to report births and stillbirths shall state on the birth certificate or stillbirth certificate, as the case may be, whether a blood test for syphilis has been made during such pregnancy upon a specimen of blood taken from the woman who bore the child for which a birth or stillbirth certificate is filed and, if made, the date when such test was made, and, if not made, the reason why such test was not made. In no event shall the birth certificate state the result of the test.

Should this measure appeal to you as being proper and advantageous it might be well for the medical profession in this state to support its passage. Please take the time to read and evaluate this proposed law.

Editorial Notes—Personal and General

The following Oklahoma Doctors attended the meeting of the American Academy of Orthopedic Surgeons which was held in Memphis, January 15-19: Doctors D. H. O'Donoghue, C. R. Rountree, Earl D. McBride, E. Margo, R. L. Noell, L. S. Willour, J. E. McDonald, and Paul C. Colonna.

Doctor Colonna appeared on the program presenting his "hip-joint reconstruction" operation. Drs. Colonna and Harte, of the Departments of Orthopedic Surgery and Pathology, Oklahoma Medical School, presented a scientific exhibit on "A Critical Analysis of 40 Registered Primary Malignant Bone Tumor Cases." Dr. Earl D. McBride, Oklahoma School of Medicine, presented a Scientific Exhibit on "Absorbable Metal in Fractures."

DR. GRADY F. MATHEWS, Tahlequah, has been appointed as State Health Commissioner, to succeed Dr. Chas. M. Pearce. His name was selected from four submitted by the Oklahoma State Medical Association. As health commissioner, Dr. Mathews automatically becomes a member of the State Welfare Board. He has been a field worker of the State Health Department.

DR. MORRIS FISHBEIN, Editor, Journal American Medical Association, Chicago, will be the guest of Pottawatomie County Medical Society, March 14, 1939, at Shawnee.

News of the County Medical Societies

HARMON County Medical Society elected the following officers for 1939 at their meeting in December: President, Dr. W. G. Husband, Hollis; Vice-President, Dr. S. W. Hopkins, Hollis; Secretary-Treasurer, Dr. L. E. Hollis, Hollis.

CREEK County Medical Society elected Drs. George C. Croston, Sapulpa, President; Wendell L. Smith, Drumright, Secretary; John M. Wells, Bristow, Censor; W. P. Longmire, Sapulpa, Delegate; E. W. King, Bristow, Alternate, for 1939.

HUGHES County Medical Society elected the following officers for 1939: President, Dr. W. L. Taylor, Holdenville; Vice-President, Dr. R. B. Ford, Holdenville; Secretary-Treasurer, Dr. Imogene Mayfield, Holdenville.

McCURTAIN County Medical Society met in January, 1939, and elected the following officers: Dr. R. D. Williams, Idabel, President; Dr. A. W. Clarkson, Valliant, Vice-President; Dr. R. H. Sherrill, Broken Bow, Secretary.

NOBLE County Medical Society elected the following officers for 1939 at their meeting January 22: President, Dr. J. W. Francis, Perry; Secretary, Dr. C. H. Cook, Perry; Delegate, Dr. T. F. Renfrow, Billings; Alternate, Dr. A. M. Evans and Dr. C. H. Cook, Perry.

KAY County Medical Society elected the following officers at their meeting in January: Dr. George Niemann, Ponca City, President; Dr. Merle Clift, Blackwell, Vice-President; Dr. R. G. Obermiller, Ponca City, Secretary.

GREER County Medical Society met in January and elected the following officers for 1939: President, Dr. G. F. Border, Mangum; Vice-President, Dr. J. T. Lowe, Mangum; Secretary, Dr. J. B. Hollis, Mangum; Delegate, Dr. Hollis; Alternate, Dr. J. B. Lansden, Granite.

PITTSBURG County Medical Society held their annual inaugural banquet January 20, McAlester, for their members. Following the banquet Dr. Geo. A. Kilpatrick was installed as President, succeeding Dr. A. R. Russell; Dr. C. O. Williams as Vice-President; Dr. E. D. Greenberger, Secretary-Treasurer; and Drs. E. H. Shuller and T. H. McCarley, as Delegates. The principal address of the evening was given by Mr. H. M. Armstrong, of the Extension Department of the University of Oklahoma. His subject was "America and the Social Scene." Mr. Herman Larson, Associate Professor of voice at the University, and Mr. Spencer H. Norton, Associate Professor of Music at the University, entertained with several musical selections.

OKFUSKEE County Medical Society elected the following officers for 1939: President, Dr. A. S. Melton, Okemah; Vice-President, Dr. J. M. Pemberton, Okemah; Secretary, Dr. C. M. Bloss, Jr., Okemah.

ALFALFA County Medical Society elected the following officers for 1939 at their regular meeting in January: President, Dr. Z. J. Clark; Vice-President, H. E. Huston; Secretary, Dr. L. T. Lancaster, all of Cherokee.

OSAGE County Medical Society met in January and elected the following officers for 1939: President, Dr. M. E. Rust, Pawhuska; Vice-President, Dr. B. E. Dozier, Shidler; Secretary, Dr. George K. Hemphill, Pawhuska; Delegate, Dr. Paul H. Hemphill, Pawhuska; Alternate, Dr. R. S. Smith, Hominy.

McINTOSH County Medical Society elected the following officers for 1939: President, Dr. J. W. Stoner, Checotah; Vice-President, Dr. D. E. Little, Eufaula; Secretary, Dr. W. A. Tolleson, Eufaula.

CLEVELAND County Medical Society was entertained at dinner by Dr. and Mrs. O. E. Howell, Norman, and following dinner officers for 1939 were elected as follows: President, Dr. W. H. Atkins; Vice-President, Dr. George Wiley; Secretary-Treasurer, Dr. Elizabeth Dorsey; Delegate, Dr. D. W. Griffin, all of Norman.

BRYAN County Medical Society elected Dr. Alfred Baker, President, and Dr. Jas. L. Shuler, Secretary, both of Durant, for 1939.

CARTER County Medical Society met December, 1939, and elected the following officers for 1939: President, Dr. Emma Jean Cantrell, Wilson; Vice-President, Dr. David Cantrell, Wilson; Secretary-Treasurer, Dr. J. Hoyle Carlock, Ardmore.

KIOWA County Medical Society elected the following officers for 1939: President, Dr. J. M. Bonham; Vice-President, Dr. H. B. Watkins; Secretary-Treasurer, Dr. J. Wm. Finch, all of Hobart.

WOODS County Medical Society met December 5, 1938, and elected the following officers for 1939: President, Dr. Clifford A. Traverse, Alva; Secretary, Dr. O. E. Templin, Alva; Delegate, Dr. Daniel B. Ensor, Hopeton.

JACKSON County Medical Society elected the following officers for 1939: President, Dr. J. R. Reid, Altus; Vice-President, Dr. R. F. Brown, Altus; Secretary-Treasurer, Dr. J. M. Allgood, Altus; Delegate, Dr. Wayne Starkey, Altus; Alternate, Dr. E. A. Abernethy, Altus.

OKMULGEE-OKFUSKEE County Medical Societies met December 19, 1938, at Henryetta for their annual dinner. The program was devoted to a discussion of the care of the indigent, with Dr. A. W. Pigford, Tulsa, describing the Tulsa set-up. The following officers were elected for 1939: President, Dr. H. D. Boswell, Henryetta; Vice-President, Dr. J. R. Cotteral, Henryetta; Secretary-Treasurer, Dr. C. E. Smith, Henryetta; Censor, Dr. I. W. Bollinger, Henryetta; Delegates, Dr. J. C. Matheney, Okmulgee, and Dr. G. Y. McKinney, Henryetta; Alternates, Dr. J. G. Edwards, Okmulgee, and Dr. R. W. Hubbard, Oklahoma City.

OTTAWA County Medical Society elected the following officers for 1939 at their meeting in December: President, Dr. Matt A. Connell, Picher; First Vice-President, Dr. J. S. Jacoby, Commerce; Drs. W. G. Chesnut of Miami and H. K. Miller, Fairland, Second and Third Vice-Presidents, respectively; Secretary-Treasurer, Dr. W. Jackson Sayles, Miami, re-elected.

CARTER County Medical Societ met January 23, 1939, at Ardmore with the following program:

"Plans of Committee on Medical Policy and Legislation," Dr. Finis W. Ewing, Chairman, Muskogee; "Program of State Medical Executive Secretary," Mr. R. H. Graham, McAlester, Executive Secretary; "Discussion of State Legislative Policy,"

Dr. J. S. Fulton, Atoka; "Presentation and Discussion of Farm Group Proposal," by Drs. Walter Hardy, F. P. Von Keller and J. Hobson Veazey.

WOODWARD County Medical Society met in December as guests of the Staff of the Western State Hospital at Supply with dinner at 6:30 and the following program:

Report of Dr. Johnson of the Staff on "Results With Insulin Treatment, Covering One Year."

Doctors Coyne Campbell, Oklahoma City, and H. K. Speed, President, of the State Association, Sayre, were guest speakers.

The following officers were elected for 1939: President, Dr. C. E. Williams, Woodward; Vice-President, Dr. Floyd Newman, Shattuck; Secretary-Treasurer, Dr. C. W. Tedrowe, Woodward.

OBITUARIES

Harry J. McGuire, M.D., 1900-1938

Ushered in on the crest of Christmas chimes and carols commemorating the birth of the Prince of Peace, good will, good cheer and brotherly love to all, and when our hearts and minds were filled with a buoyancy of Yuletide season, it was likewise ushering out the realities of a departed life in the person of our good member, Harry McGuire. Harry was a likeable chap, friendly, a pleasant smile, and a host of friends, with a "Hello, so-and-so, how are you?"

The grim fates of life are hard to reckon with when men in the prime of life with a promising future are plucked from their field of toil and pursuit to the consummation of it all—eternity.

Harry worked hard and well at his job as county surgeon, rendering unto many an aching heart of the needy entrusted to his care the skill and marvel of modern surgery.

Is not that a gracious service?

It is hard for the tongue and pen of man to utter a kind word or deed that will soothe an aching heart caused by the departure of a loved one. But the County Medical Society one and all would kindly like to say, we extend to the family our heart felt sympathies in the greatest of human sorrow and sadness.

John C. Perry, Chairman.

Burtis W. McLean, M.D., 1875-1939

Gentlemen, again in the field of activity a sturdy oak has been plucked from our midst, in the life of Dr. Burtis W. McLean of Jenks, Oklahoma. It was an inspiration and an honored privilege to the members of the Tulsa County Medical Society that attended the simple and plain service which was the desire of our departed member, in the little church house across the street from his home, in the little city of his choice where he gave 39 years of active toil in the profession that we most dearly cherish.

There was many a tear-stained eye that passed the floral be-decked bier of this humble apostle of the healing art, no doubt the devoted, honored, respected, true and loyal friends and former patients, with saddened faces and aching hearts, representative of families whose hand he had grasped when they entered this world, and likewise calmly held as they departed from it.

It has well been said and worthy of repetition, that there are good qualities, merits, morals, examples and sterling characters in all mankind if you will only seek it out.

And to the membership of this society I wish to extend to you and call to your attention a beautiful example and loyalty and devotion to our honored profession, as this man gave his life by the roadside, no doubt the cause of a road hog: trying to reach our meeting place some 18 miles away. He was quiet, unassuming, loved solitude, entered our meetings taking his seat, never entering into discussions, and when the meeting was over silently steal away, always leaving the expression of Solomon, "A silent tongue is the key to wisdom."

If this sacrifice of life to the devotion and good of our cause and society in a man of his attained age, picked up by the side of the highway, sittng on the bumper of his car grasping for breath and mortally dieing, trying to reach the meeting place of his society means anything to us: it must surely be a beautiful example of loyalty and devotion. And the security of medicine and our profession in Oklahoma would be well founded, and our good member's life would have not been in vain.

To the devoted wife and life companion the Tulsa County Medical Society humbly says, "May God's blessings be your solace and comfort in your hour of sorrow, in this reality of realities that all the living must sooner or later meet."

Robert Allen Cavitt

Robert Allen Cavitt, Morrison, Oklahoma, age 67. Graduate of College of Physicians and Surgeons at St. Louis, 1898. County Health Officer of Noble County and member of the 13th legislature. Died December 24, 1938.

Recent Deaths

(Insufficient Data for Obituary)

Dr. B. F. Moreland, Idabel, January 16, 1939.
Dr. W. G. Wainright, Tulsa, January 18, 1939.
Dr. J. C. McNees, Ardmore, December 14, 1938.
Dr. Harvey A. Dever, El Reno, December 26, 1938.
Dr. Arthur E. Hale, Alva, January 11, 1939.
Dr. W. R. Black, Seminole, December 22, 1938.

Annual Spring Clinic of the St. Joseph Clinical Society

The St. Joseph Clinical Society will hold its eighth annual spring clinic on March 28 and 29, at the Hotel Robideaux, St. Joseph, Mo. There will be no registration fee. The purpose of the meeting is to offer a cencentrated post-graduate course in recent advances in clinical medicine and surgery as interpreted by eminent clinicians who will be our guest speakers.

Over 60 such guest speakers have already honored the Society in the past. This year's speakers offer an especially attractive series of clinical lectures. Aware of the ever increasing importance of more recent social trends as they affect organized medicine, we have secured Dr. Morris Fishbein who will deliver an address to which the general public will be invited. Two luncheons and banquets will be reserved for relaxation and entertainment. The St. Joseph Clinical Society extends a cordial invitation to all members of the medical profession who may wish to be our guests at this clinical gathering.

The speakers and their subjects:

Dr. Gershom J. Thompson: "Transurethral Prostatic Resection."

Dr. Q. W. Newell: "Cancer of the Uterus."

Dr. Fred J. Taussig: "Treatment of Septic Abortion." (Round table discussion.)

Dr. F. J. Taussig: "The Co-ordination of Radium with Surgery in the Treatment of Cervix Cancer."

Dr. Willis C. Campbell: "Some aspects of Surgery of the Hip Joint."

Dr. Heyworth N. Sanford: "Jaundice in the New Born."

Dr. Heyworth N. Sanford: (Banquet) "Some Observations on Disturbances of Blood Coagulation."

Dr. August A. Werner: "The Effect of the Ductless Glands in Growth and Development."

Dr. Ralph A. Kinsella: "The Pneumonias."

Dr. Walter C. Alverez: "Useful Hints in the Treatment of Indigestion."

Dr. Maurice C. Howard: "Problems in Gastric Hemorrhage."

Dr. Morris Fishbein: (Noon luncheon) "American Medicine and the National Health Program."

Dr. Morris Fishbein: (Open public address) "The Social Aspects of Medical Care."

Dr. J. A. Myers: "Modern Methods in Diagnosis and Therapy of Tuberculosis."

Dr. Coyne H. Campbell: "Practical Points in the Management of Neurotic Symptoms, Inhibitions and Anxiety."

Dr. Manuel Grodinsky: "Pyogenic Infections of the Hand and Foot."

MOTION PICTURES AVAILABLE

The following films are available for use for County Medical Societies or other scientific organizations. You will notice that some of the films are for lay audiences. Requests for films should be instituted as far in advance as possible, so that the proper reservations can be made. The exact shipping address and dates should be given at the time of the request; also the type of apparatus in which the film is to be run. Responsibility for the projection and care of the film must be borne by the individual or organization which is borrowing it. The American Medical Association does not have projectors available for loan. The only expense incurred is that of transportation both ways. Careless handling, resulting in serious damage may be charged to the borrower. A brief description of each film is given in the following list.

Application for these films should be made to the Committee on Post Graduate Medical Teaching of the Oklahoma State Medical Association, 217 Plaza Court, Oklahoma City. These applications will be forwarded to the American Medical Association for distribution of the films. List:

(1)—MOTION PICTURES FOR MEDICAL SOCIETIES AND OTHER SCIENTIFIC ORGANIZATIONS

Syphilis—A Motion Picture Clinic

Sound. 35 mm., 9 reels; also 16 mm., 2 large reels, 1,600 ft. each. Running time, about 1½ hours.

The diagnosis and treatment of syphilis presented by the following individuals:

Dr. John H. Stokes—Diagnosis of early syphilis.

Dr. Harold N. Cole—Treatment of syphilis.

Dr. Paul A. O'Leary—Latent syphilis.

Dr. James R. McCord—Treatment of syphilis in pregnancy.

Dr. Philip C. Jeans—Congenital syphilis.

Dr. Joseph Earle Moore—Late manifestations and neurosyphilis.

Short talks also given by: Dr. Charles Gordon Heyd, Dr. Morris Fishbein, Dr. Thomas Parran, Dr. R. A. Vonderlehr.

(Script is available in a pamphlet—40 pp., price 10c.)

Sponsored jointly by the American Medical Association, 535 N. Dearborn street, Chicago, and the United States Public Health Service, Washington, D. C.

Produced by Burton Holmes Films, Inc., 7510 N. Ashland Ave., Chicago.

Audience: medical.

Cancer—(Canti Cancer Film)

Silent. 35 mm., 3 reels. Running time, about 45 minutes.

A film demonstrating the proliferation of cell tissue and the formation of cancers.

Produced by Dr. R. G. Canti, London, England.

Audience: medical.

Blood Circulation (Harvey Blood Film)

Silent. 35 mm., 3 reels. Running time, about 45 minutes.

An attempt has been made to reproduce the dissections and experiments performed and described by Harvey himself, and here explained in the main by extracts from Robert Willis' translation of Harvey's book.

Audience: medical.

Blood Transfusion

Silent. 16 mm., 1 large reel, 1,200 feet. Running time about 45 minutes.

Three methods of blood transfusion, illustrated in detail.

Sponsored by the Blood Transfusion Betterment Association, 39 E. 78th St., New York, N. Y.

Produced by Mr. Joseph P. Hackel, New York, N. Y.

Audience: medical.

Comparative Physiology of Labor

Silent. 16 mm., 4 reels, total about 1,400 feet. Running time, about 1 hour.

Demonstration of normal labor in the human, the horse, the cow, the sheep, the dog, the pig, and rabbit.

Produced by Professor K. de Snoo, Obstetrical and Veterinary Clinics, University of Utrecht, Netherlands.

Audience: medical.

Effects of Heat and Cold on the Circulation of the Blood

Silent. 16 mm., 1 reel, 300 feet. Running time, 12 minutes.

Demonstration of the effect of heat and cold on circulation as seen through a glass chamber installed in a rabbit's ear.

Produced by Dr. E. R. Clark, University of Pennsylvania, School of Medicine, Philadelphia.

Audience: medical.

Effects of Massage on Circulation of Blood

Silent. 16 mm., 1 reel, 200 feet. Running time, 8 minutes.

Demonstration of the effect of massage on circulation as seen through a glass chamber installed in a rabbit's ear.

Produced by Dr. E. R. Clark, University of Pennsylvania, School of Medicine, Philadelphia.

Audience: medical.

Contraction of Arteries and Arterio-Venous Anastomoses

Silent. 16 mm., 1 reel, 250 feet. Running time, 10 minutes.

This film visualizes the contraction of arteries and arteriovenous anastomoses as seen through a glass chamber installed in a rabbit's ear.

Produced by Dr. E. R. Clark, University of Pennsylvania, School of Medicine, Philadelphia.

Audience: medical.

Therapeutic Exercises for the Shoulder Joint Following Dislocation

Silent. 16 mm., 1 reel, 250 feet. Running time, 10 minutes.

Demonstration of static, passive, active and resistive exercises for the shoulder joint, using simple apparatus.

Produced by the Council on Physical Therapy, American Medical Association, 535 N. Dearborn St., Chicago.

Audience: medical.

Treatment of Compression Fracture of the First Lumbar Vertebrae

Silent. 16 mm., 1 reel, 300 feet. Running time, about 12 minutes.

This film shows physical therapy procedures to be administered to a fracture of the first lumbar vertebrae during a patient's confinement in bed and immediately following.

Produced by Dr. Harry E. Mock and Dr. John Pribble, 122 S. Michigan Ave., Chicago.

Audience: medical.

Aids in Muscle Training

Silent. 16 mm., 1 reel, 300 feet. Running time, about 12 minutes.

Demonstration of sling suspension exercises for the upper and lower extremities, graded exercises on a powdered board for the lower extremities, and three kinds of "walkers" for reeducation exercises.

Produced by the Council on Physical Therapy, American Medical Association, 535 N. Dearborn St., Chicago, Ill.

Audience: medical.

Underwater Therapy

Silent. 16 mm., 1 reel, 400 feet. Running time, about 16 minutes.

Presentation of therapeutic use of large and small exercise pools, Hubbard tanks, and home-made tanks, and demonstration of types of exercises given in cases such as infantile paralysis, cerebral palsy and postoperative congenital dislocation of the hip.

Produced by the Council on Physical Therapy, American Medical Association, 535 N. Dearborn St., Chicago, Ill.

Audience: medical.

Occupational Therapy

Silent. 16 mm., 1 reel, 300 feet. Running time, 12 minutes.

This film demonstrates occupations that may be prescribed by physicians to motivate and control the desired physical or mental activity of the patient and assist in his adjustment to long hospitalization. A section on cerebral palsy is included, picturing indirect muscle training through prescribed activity and stressing the importance of early treatment to prevent growth of faulty habit patterns.

Produced by the Council on Physical Therapy, American Medical Association, 535 N. Dearborn St., Chicago.

Audience: medical.

Massage

Silent. 16 mm., 1 reel, 100 feet. Running time, 4 minutes.

Demonstration of technic of massage, describing the various movements and why they are performed in a given way.

Produced by the Council on Physical Therapy, American Medical Association, 535 N. Dearborn St., Chicago.

Audience: medical.

(2)—MOTION PICTURES FOR THE PUBLIC

A New Day

Sound. 16 mm., 1 reel, 400 feet. Running time, about 12 minutes.

A dramatized film on the prevention and treatment of pneumonia.

Produced by Metropolitan Life Insurance Company, 1 Madison Ave., New York, N. Y.

Prevention of Burns

Silent. 16 mm., ½ reel. Running time, about 7 minutes.

A dramatized picture depicting the prevention of burns in children, with a short presentation of tannic acid treatment.

Produced by the Milwaukee Children's Hospital, Milwaukee, Wis.

Men of Medicine

Sound. 16 mm., 1 reel, 800 feet. Running time, about 30 minutes.

THE MARCH OF TIME—produced by the Editors of Time and Life, 369 Lexington Ave., New York City.

Released by RKO Radio Pictures.

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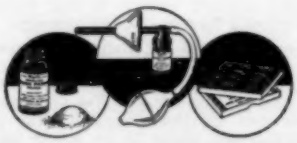

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ABSTRACTS : REVIEWS : COMMENTS *and* CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments from
LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

Pancreatic Extract (Enzyme-Free) In the Treatment of Diabetic and Arteriosclerotic Gangrene; Joseph B. Wolffe; The American Journal of Surgery; January, 1939; page 109.

The author says that he has obtained very favorable results by treating cases of diabetic and arteriosclerotic gangrene with various enzyme-free pancreatic extracts prepared and standardized according to previous publications by him. The early rationale for using this substance was based mainly on the work of Frey and Kraut and of Vaquez and his co-workers, who showed that the pancreas contains a vasodilator substance. The author and his associates have since discovered and reported that it possesses many other pharmacologic properties:

(A) They believe it contains a parasympathetic stimulant (perhaps a cholinergic hormone) for the following reasons: (1) it neutralizes the rise in blood pressure produced by epinephrine; (2) topical application to the bullfrog eye constricts the pupil and neutralizes the dilator effect of epinephrine; (3) it increases peristalsis.

(B) This substance aids in fat metabolism, that is, it lowers blood cholesterol and phospholipids after parenteral administration.

(C) In depancreatized dogs it prevents fatty degeneration of the liver and prolongs the life of the animal.

(D) It causes appearance or increase in human urine of a substance related to choline, which is detected, like choline, by adding a solution of bismuth iodide in nitric acid to the urine.

After injection of pancreatic extract, the quantity of brick red precipitate increases over a period of a few hours. In their experience there is a relationship between the quantitative appearance of this substance and actual clinical results.

(E) Their clinical impressions suggest that pancreatic extract prevents certain trophic changes.

In this article the author summarizes a series of 100 cases treated with pancreatic extracts. This series comprises 60 cases of diabetic-atherosclerotic gangrene and 40 cases of non-diabetic-atherosclerotic gangrene. The age range of the patients was from 44 to 78 years.

They divided all their diabetic cases treated with pancreatic extracts into two groups. The first consisted of those with beginning dry gangrene and the second group, consisting of diabetics, comprised 27 cases of more extensive gangrene.

Patients in their series of 100 cases seemed to do very well, presenting about 75 per cent of complete healing. Most of them were treated conservatively. The author stresses that injections of pancreatic extract did not constitute the sole treatment in all the cases. The extract was administered in doses of from one to three cc., either daily or on alternate days, depending on indications, in addition to an adequate diabetic regimen. Nor were other measures neglected, such as proper hygiene, asepsis, short wave diathermy, low fat diet, etc.

The usual diabetic management fails in many cases of gangrene, necessitating radical surgery. The author attributes this to the lack in insulin of some substance present in the pancreatic extract (desympatone).

The active substance present in the enzyme-free pancreatic extract, which is neither histamine nor choline, exerts a beneficial influence upon lipoid metabolism, as well as upon muscle metabolism in general. As a corollary to this, it may be that the combination of insulin, pancreatic extract and a diet low in fats, will prevent the early appearance of atherosclerosis in diabetics. If this is true, it is possible to expect a decreased incidence of diabetic gangrene.

The author's conclusion is that pancreatic extract (enzyme-free) proved of great value as an additional therapeutic agent in the management of diabetic and arteriosclerotic gangrene. It not only produces an early arrest of pathologic processes, but seems to stimulate repair more rapidly and more completely than any other conservative method in his experience.

LeRoy D. Long.

Clinical Aspects of the Blood Chemistry in Intestinal Obstruction; M. A. Falconer; Proceedings of the Staff Meetings of the Mayo Clinic; July 20, 1938; page 460.

The variations in the blood chemistry toward hypochloremia, azotemia, alkalosis and dehydration, which occur constantly in cases of experimental high intestinal obstruction among animals, do not occur uniformly in cases of obstruction observed clinically among human beings. Clinically, alterations in the blood chemistry when obstruction is present seem to be secondary to the onset of intoxication, for often cases of either high or low intestinal obstruction are encountered in which the obstructing lesion has been present for some time without the development of significant variations in the blood chemistry.

No uniformity characterizes the biochemical changes which may occur in the blood during obstruction at any given level of the intestine. Often, cases of obstruction are encountered which are caused by similar lesions and at similar sites, yet showing differing biochemical variations. A rise in the concentration of blood urea is the most constant change and is associated with a high urinary output of urea (and urinary nitrogen) in all cases except those associated with nephritis. This combination of a high concentration of blood urea and a high urinary output is the result of increased endogenous metabolism of protein.

Cases of intestinal obstruction may be associated with a normal concentration of chloride of the plasma during obstruction and even with ample chloride of the urine. The decrease in chloride is influenced by the duration and severity of the vomiting and tends to be severe in those cases in which vomiting is profuse. However, exceptions are encountered. The carbon dioxide combining power of the plasma may be variable. Usually, when the

plasma chloride is low, the carbon dioxide combining power is high and when the plasma chloride is normal, the carbon dioxide combining power is either normal or decreased. Evidence of dehydration is furnished by repeated hematocrit determinations and erythrocyte counts which indicate a decrease in the concentration of the blood during recovery. Occasionally, pronounced dehydration is the most prominent finding.

The author divides cases of intestinal obstruction associated with changes in the blood into two syndromes: (1) cases associated with azotemia, hypochloremia, alkalosis and dehydration; (2) cases associated with azotemia, and dehydration, a normal concentration of chloride in the plasma and a variable acid base equilibrium. The first syndrome (the classical one) occurs in practically all cases of pyloric and duodenal obstruction, in the majority of cases of obstruction of the small bowel and in a few cases of obstruction of the large bowel. The second syndrome rarely is associated with pyloric and duodenal obstruction but is encountered in some cases of obstruction of the small bowel and in the majority of those of the large bowel.

Repeated examination of the blood in the author's cases enabled him to observe the effects of operation and saline therapy on the blood. He summarizes his conclusions as follows:

1. "Following release of the obstruction, there is a natural tendency toward restitution of the various constituents of the blood to normal. This tendency can be observed in every case in which recovery ensues. It commences simultaneously with clinical improvement but does not reach completion until some days after clinical recovery is manifest.

2. "In cases of hypochloremia in order to replace that which is lost from the body, sodium chloride is required in amounts of 15 to 25 gm. for each 100 mg. per cent that the plasma chloride is below normal. We have found that more marked responses occur in the plasma chloride values when sodium chloride is given as a physiologic solution either subcutaneously or intravenously rather than as a 10 or 15 per cent solution intravenously. When sodium chloride is administered in these amounts after the release of obstruction, the plasma chloride recovers at its own natural rate and it is often impossible to accelerate this rate of recovery by the administration of larger amounts of sodium chloride.

3. "Alterations in the concentration of blood urea afford better criteria of a patient's progress than alterations in the concentration of plasma chloride. Hypochloremia may be corrected by means of saline therapy without appreciably improving the patient's condition or modifying the azotemia. On the other hand, a steady and rapid rise in the concentration of blood urea is of grave prognostic significance.

4. "Dehydration is present in practically all cases of intestinal obstruction and may be severe. It is necessary to administer fluid until a daily output of 1,000 to 1,500 c.c. of urine is established. The most satisfactory method of determining the correction of dehydration is measurement of the total daily output of urine.

5. "In clinical cases of obstruction, parenteral fluids usually are required because of vomiting and because of the disturbed function of the bowel. Occasionally cases of uremic intoxication (alkalosis) complicating pyloric stenosis are encountered, in which owing to the persistence of symptoms of retention, little or no improvement follows the administration of solutions of saline and glucose parenterally. In such cases the administration of these solutions by jejunostomy is feasible and leads to more rapid improvement clinically.

"These biochemical variations are not the only changes which may occur in the blood of patients who have intestinal obstruction although they are probably the most important changes. Further work on these chemical changes is at present in progress."

Dr. J. F. Weir made a very able discussion of this paper and in general agreed with the author's conclusions.

In addition, Dr. Weir pointed out that surgeons had for some time been recognizing such cases on the basis of the occurrence of gastric retention and decreased excretion of urine before any chemical changes occurred in the blood and that adequate therapy relieved the condition. Thus, in an illness that could be recognized and satisfactorily treated before alteration of chemical constituents of the blood occurred, the condition could not be ascribed to this alteration. In other words, failure of motor function precedes depletion of fluids and electrolytes in the blood and tissues, increased tissue catabolism, and the severe coincidental clinical symptoms. It seems wise, therefore, in the light of our present knowledge, to attribute the condition to some unknown factor which gives rise to inhibition of motor function.

LeRoy D. Long.

X-Ray Demonstration of Submucous Myomas by Combined Use of Hippuran and CO_2 Injections. I. C. Rubin, M.D., F.A.C.S., New York, N. Y. American Journal of Obstetrics and Gynecology, January, 1939, Vol. 37, No. 1, page 75.

Dr. Rubin has devised a refinement in the method for diagnosis of submucous myomas. He has employed intra-uterine injections of hippuran which leaves a crystalline deposit upon the uterine mucosa and the mucosa covering the submucous tumor. The hippuran is allowed to drain from the cavity of the uterus and thereafter CO_2 is injected and an X-ray made. Neither by itself is adequate for diagnosing fibroid tumors but the transparent contrast of CO_2 to the densely opaque hippuran outline causes the tumors to stand out in relief. The author reports that the media is innocuous, that there is no irritation and no residue or foreign body reaction. He advises it in selected patients where recognition of submucous myoma is important from the view-point of choice of therapy.

Comment: This is an additional feature to the already excellent work done by Dr. Rubin in connection with the intra-uterine injection of gases and oils. It will have very little general usage but in the instances where an attempt is being made to preserve the maximum function of the uterus in young women, this additional diagnostic assistance will be of extreme importance.

Wendell Long.

The Degree of Normal Menstrual Irregularity. An Analysis of 20,000 Calendar Records from 1,500 Individuals. Leslie B. Arey, Ph.D., Sc.D., Chicago, Ill. American Journal of Obstetrics and Gynecology, January, 1939, Vol. 37, No. 1, page 12.

This is a statistical study of a collection of reported series where the records of consecutive menstruations were set down on a calendar at the time of occurrence.

It reports 20,000 calendar records from about 1,500 women and girls as given in 12 different studies.

The author feels that such records are the only reliable ones and that ordinary hospital histories, oral testimony and similar data which depend on unaided memory have proven entirely unreliable.

"The average length of all cycles is 33.9 days for girls and 28.4 days for women."

"The mean length of cycle based on individual averages is 33.6 days for girls and 29.5 days for women."

"The maximum departures of individuals from

their means extends from 1 to 69 days in adults and from * to 211 in pubertal girls."

"In the first few years of menstrual function the cycle length is extremely variable (seven to 256 days)."

"From the menarche to the twentieth or twenty-fourth cycle, only two-thirds of the total cycles of an average individual kept within a 20-day range above and below her mean. Yet in middle adolescence, occupied by cycles 25 to 39, the regularity improved to such an extent that, on the average, two-thirds of all the cycles kept within a 10-day range."

In adults over 21 years of age there was a variation of plus or minus 2½ days on the average from the mean. "Expressed differently, an average adult woman must expect one-third of all of her cycles to depart more than two days from her mean cycle length." "The amount of variability shown by adults is greater than ordinarily is credited." "In the records of more than 500 women, 27 per cent never showed their own means during the observation period which averaged 11 cycles in length. Only 20 per cent experienced their own mean in at least one-third of their recorded cycles.

"The adults, reported in detail by 11 different investigators, represent all ages from late adolescence to approaching menopause. They include American, Canadian, British, German, and Hungarian subjects, and they sample various grades of society. In no instance did an example of perfect menstrual regularity appear over any significant period of time; this is all the more noteworthy since many individuals had previously declared themselves to be the acme of invariability. The most regular records are short ones. In a separate (unpublished) study of menstrual records extending as long as 20 years, it will be shown that temporary successions of atypical regularity (or irregularity) may occasionally interpose themselves in a rhythm of fundamentally different characteristics. It is these unrepresentative fragments of the true record that sometimes lead to erroneous conclusions concerning an individual rhythm; even a record extending for over a year may prove to be unrepresentative.

"In the face of all these facts it seems improbable that menstrual regularity, in any true sense of the word, ever will be encountered over significant periods of time. Certainly, not the slightest evidence pointing toward perfect regularity has so far been produced for even a single exceptional individual. Should such a person be found at some future time, she will constitute a true medical curiosity."

Comment: This is a well prepared statistical study which represents an important practical consideration, especially at the present time when a great many endocrine products are rather promiscuously employed in order to correct an acquired or temporary irregularity of menstruation. It is well to remember that a mild degree of variation, while possibly due to endocrine dysfunction is basically caused by the patient's general poor health, variations in her mental and physical strain and to a certain degree upon the weather changes of seasons.

It is, therefore, wise to consider the individual very carefully from a general standpoint before offering specific endocrine therapy for irregularity, and also to take note of the fact that apparently normal individuals have a certain degree of variation in their so-called regularity.

Wendell Long.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M.D.
911 Medical Arts Building, Tulsa

Parallel Study of the Pathogenesis of Rhinogenous Optic Neuritis and of Serous Iritis. Bela Waldman, M.D., Oradea (late Nagyvarad), Roumania. American Journal of Ophthalmology, January, 1939.

The opinions of American authors on this controversial question is so considerable that it results in confusion to the reader. This article is the opinion, experiences and case reports of one outside realm of the American investigators and so is quite interesting. In regard to optic neuritis of rhinogenous origin the author believes that it is a rare disease but that it does occur; also that when all other causes are excluded, even if the X-ray and nasal findings of the sinuses are negative, an explorative opening of the posterior sinuses is indicated.

He considers serous iritis of greater importance because of its greater incidence and because it is often bilateral and consequently may result in a greater disability. This is called a seasonal disease because the author's cases have presented themselves from October to April; because of the good results obtained by nasal tamponade he considers the disease **of rhinogenous origin**; the causative agent most often found in the sinuses is the influenza bacillus. Catarrhal diplococcus is found normally on mucous membrane of the nasal cavities —its pathology is slight—but it is capable of bringing about a catarrh of the upper respiratory passages. The causative agents reach the eyeball by the hematogenous route or by direct passage. Hajek is quoted as to the extent the swelling may go in a sinus infection and its extension to the bone. The medullary cavities of the bony wall provide a straight path for the bacteria toward the optic canal; thence to the pia mater and the uvea.

The author's summary is as follows:

As can be seen from the foregoing, the pathogenesis of optic neuritis and of serous iritis displays considerable differences; they have, however, many points in common.

The optic neuritis of rhinogenic origin is the outcome of an aseptic process going on in the optic canal, and is brought about exclusively by mechanical factors. Its origin is in the empyema of the posterior sinuses, or the chronic hypertrophic inflammation of the latter.

Spontaneous serous iritis, even in the presence of syphilis or tuberculosis, is in every instance the outcome of a catarrhal infection.

The source of infection is the catarrhal inflammation of the posterior sinuses, and pathogenic agents migrate directly from the sinus into the canal and thence, by way of the pia mater, into the uvea.

Studies on the Bacteriology of Hypopyon Ulcer. A report on the conjunctival flora of healthy coal mine workers. A. J. Rhodes, M.B., M.R.C.P.E., University of Edinburgh. The British Journal of Ophthalmology, January, 1939.

Cultures were taken from both conjunctival sacs as the men came off work and rubbed over blood agar in screw top bottles and sent to the laboratory for incubation. A total of 658 miners were examined from four different mines. It was thought that there might be a tendency for an organism, once having gained access to a group of workers to spread through that unit. On two occasions this theory was definitely proven to be

true. Various tables accompany this article. The summary of the article is as follows:

1. The conjunctival flora of 658 healthy coal mine-workers has been examined, representing four different pits.

2. In two pits the oncost-worker evidently harboured a more profuse flora than the other workers.

3. Apart from this, below-ground workers did not harbour a flora essentially different from that of surface workers.

4. The following potentially pathogenic organisms may be found in all groups of workers in significant quantity: streptococcus viridans, pneumococcus, diplobacillus of Morax, haemophilic bacilli and B. Coli.

5. Streptococcus viridans occurred in 11.25 per cent of persons.

6. Fifty-four strains of pneumococcus were encountered (representing 8.1 per cent of the workers), but only one of these fell into a main type (type 3). The bulk of the remainder proved avirulent to the mouse, but showed typical reactions otherwise.

7. The distribution of diplobacillus of Morax was somewhat irregular, occurring in 2.3 per cent of all workers in pits L, V, and W, and in 6.76 per cent at pit A.

8. Haemophilic bacilli were isolated from 1.5 per cent of persons, and B. coli from 0.75 per cent.

9. It is considered that the conjunctival flora of coal mine-workers is potentially dangerous and that the source of infection in hypopyon ulcer is from organisms already present in the conjunctival sac. Those most liable to contract the disease are those most exposed to corneal trauma—the miners and brushers.

Retinitis In Diabetes. Henry P. Wagener, M.D., Thomas J. Dry, M.B., and Russell M. Wilder, M.D. Digested from New England J. Med., Vol. 211 and published in The Digest of Ophthalmology and Otolaryngology, January, 1939.

The material upon which this paper is based consists of the records of 1,052 cases of "run-of-the-mill" type of diabetes. While some patients suffer from both diabetes and severe hypertension, retinitis may be seen that is dependent entirely on the hypertensive disease. Constriction and sclerosis of the arterioles are present, with cotton-wool patches and superficial areas of hemorrhage, but such a picture is not suggestive of diabetes. However, in a large majority of cases of diabetes, characteristic retinal lesions are found irrespective of hypertension.

Five types may be described which represent progressive phases in the development of a common underlying process. "They are, (1) hemorrhages alone, with no other lesion, (2) hemorrhages with punctate exudates, (3) hemorrhages with both punctate and cotton-wool-like exudates, (4) hemorrhages or exudates associated with visible lesions in the veins, and (5) visible lesions in the veins with recurrent hemorrhages into the vitreous and proliferation of new vessels and formation of scar tissue.

"The earliest and mildest type of retinitis in diabetes consists of tiny punctate hemorrhages which are situated usually in the vicinity of dilated terminal venules in the macular region. In later phases of the disease these hemorrhages may be larger and more widely spread. Almost always, however, they are deeply situated and therefore more or less round in form.

"At a later but still early stage a few, shiny, irregularly-shaped punctate exudates are seen apparently lying in the deeper layers of the retina, either above or below the fovea centralis and usually in association with the minute hemorrhages just described. . . . In the more advanced stages the hemorrhages are very wide-spread, and many of them are large and of irregular form.

"Ophthalmoscopic examination in 1,052 cases in which patients had diabetes revealed hemorrhagic lesions of the retina in 187, or 17.7 per cent. Hemorrhage alone was observed in 5.5 per cent; hemorrhage associated with exudates, 12.2 per cent.

"The retinal lesions in question occur predominantly among patients more than 40 years of age. The lesions are usually but not always associated with hypertension or other evidence of general vascular disease.

"The retinal disease in question seems to pass progressively through successive stages, beginning with hemorrhages only and eventuating in a gross venous disease with nective tissue.

"It is our belief that diabetes injures the finer arterioles or venules of the retina, probably the latter; that the injury is insufficient in degree in most cases to bring about abnormalities that are visible with the ophthalmoscope; but that when a visible abnormality is produced, it is characteristic. When the patient is afflicted with other diseases of the vascular system, particularly hypertension, the lesion characteristic of diabetes is superimposed on the other lesion, giving a composite picture that is still characteristic, so that the trained observer can diagnose from it the presence of diabetes mellitus."

Tuberculosis of the Maxillary Sinus. Joseph H. Hersh, M.D., New York. Archives of Otolaryngology, December, 1938.

There is a review of the literature on this subject beginning in 1907. There have been only 26 cases reported. Six showed a favorable outcome.

The case reported is that of a female, age 26, Puerto Rican. She first had pain in her lower abdomen in the latter part of 1935; in February, 1936, had lobar pneumonia; at this time before she left the hospital she complained of pain in her cheek for which a radical operation for chronic suppurative sinusitis (maxillary) was done; this resulted in a fistulous tract from the right maxillary sinus to gingivolabial sulcus; the abdominal persisted with a mass increasing in size which was aspirated and the fluid obtained cultured tubercle bacilli; in March, 1937, the patient again entered the hospital with swelling over the right cheek, periorbital tissues; and right submaxillary region; right cervical and submaxillary glands showed enlarged and tender; she looked sick; creamy white pus exuded from above the right upper molar tooth; Wasserman was negative; X-ray of the facial region showed far advanced destruction of the right maxillary sinus; irrigation gave large amounts of foul smelling purulent material; granulations and polypi were removed and examined but were negative for malignancy; necrotic bone was also removed; histologically there was present tuberculosis of the bone and granulation tissue; eye symptoms developed in January, 1938; X-ray showed destruction of the floor of the orbit; extensive resection was not done because of the poor general condition of the patient.

The infection of the antrum was apparently hematogenous. If the mucosa of the sinus only is involved, the diagnosis is difficult; if there is destruction of the bone and fistulous formation, the diagnosis should be easy (ruling out malignancy). The author's opinion is that for a case to terminate successfully it must be diagnosed early and radical surgery done. The general condition of the patient must also be taken into consideration.

Foreign Bodies in the Air Passages, Causing Unilobar Obstructive Emphysema. P. G. Gerlings, Amsterdam. The Journal of Laryngology and Otology, January, 1939.

Symptoms of obstructive emphysema of the bronchi by Manges (roentgenologically) are:

1. Increased transparency of the affected side, especially on expiration.

2. Depression of the diaphragm on the affected side on expiration.

3. Displacement of the heart and mediastinal structures away from the affected side on expiration.

Obstructive emphysema of both lungs, according to Manges, have these characteristic symptoms:

1. Increased transparency of both lungs.

2. Depression of the diaphragm on both sides.

3. Rotation of the heart, with its apex forward (diminished transverse diameter), on expiration.

The literature shows nothing about unilobar obstructive emphysema except two cases by Gilse. The author's symptoms of this condition are:

1. Hypersonorous percussion.

2. Diminished breath sounds.

3. Increased transparency of one of the lung areas as proved by the X-ray picture.

4. Sometimes slight displacement of the heart towards the healthy side and depression of the diaphragm on the affected side.

The factors playing a part in the development of an obstructive emphysema are:

1. Foreign body.

2. Inspiratory and expiratory movement of the bronchus.

3. Bronchitis circumscripta.

Jackson names two types in obstructive emphysema, i.e., "check-valve type" and "ball-valve type." These are discussed.

The cases reported by the author producing this condition deal mostly with inspirated peanuts or portions of peanuts.

The author's summary is as follows:

The symptoms of unilobar obstructive emphysema are described. The diagnosis is important for the localization of a foreign body in the bronchus. Some cases are described to explain the factors playing a role in the case of an obstructive emphysema. The circumscribed bronchitis is considered to be important as may be seen from the case in which a piece of peanut kernel was found in the lower lobe bronchus and in which an obstructive emphysema of the whole lung existed.

PLASTIC SURGERY

Edited by
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The Use of Free Full Thickness Skin Grafts. J. Eastman Sheehan, M.D., New York. January 7, 1939, Journal American Medical Association.

The author points out that a skin graft to cover the defect in the face should ensure that the new skin will conform to its surroundings in texture, surface level, coloration and will incorporate imperceptibly with the skin adjoining.

He mentions the difficulty of a pedicle flap in this type of reconstruction as it leaves a visible disfigurement. The thin epidermic graft will not do either. The tubed pedicle flap, he states, undergoes its changes in its fat and fibrous tissues after its release from its pedicle and therefore texture, elevation and motility are not natural.

The author points out that the free full thickness graft has none of the above named disadvantages. He claims it does not take on a brownish tint that is different from the coloration of the face.

Not so long ago, a 50 per cent success was about all that could be expected of such a graft, meaning that they did not take. The author lists recent improvement in the following conditions:

1. The skin should be healthy. This applies not alone to the immediate vicinity of the area from which the graft is to be taken but to the body generally. Some of the deterrent conditions are obvious, as disease. Some of the danger signals, as pimples, which suggest delay until improvement has been effected. There may be a concealed infection, of which the skin itself gives no sign but which will prove disastrous when it is declared in the weakened condition of the cells after they have been deprived of their normal sustenance. Two highly useful tests can be applied by way of check on such unknown factors. One is the Schilling test. In the presence of infectious processes, immature neutrophils enter the circulation in increased numbers. As compared with a ratio of 10 in normal persons and of 25 in slight infection, there may be indicated an index of 50, 75 or more. By any such indication of infection the operator is put definitely on warning and must postpone until the index is suitably lowered. Again as the success of the graft is to be attained only when the bed on which it is placed is at its best, and as oozing will impair or destroy this condition, it is important to know what the probabilities are in this particular. Where, for example, the blood platelet count is much too low, such oozing is to be apprehended, with consequent danger to the success of the graft, as a whole or in part. In presence of these or any other warnings against haste, delay is instituted to allow of the conditions being corrected.

2. The graft area itself equally demands respect. It has a normal oxygen and sulfur content, and if either is below normal the impaired vitality of the cells will be reflected when the graft is transferred. Biochemical tests for these contents have been devised, and if the results are unsatisfactory there is reason for delay until correction is effected. Moreover, it has been found that these contents are reduced in the process of cleansing and preparing the area for operation. The cleansing, for this reason, is best done the night before the operation to allow time for recovery of the oxygen content. The skin is scrubbed with soap and water, further cleansed with sulfuric ether and left covered with antiseptic gauze overnight. The use of antiseptics with a view to bacterial destruction on and within the apertures of the skin has not survived trial and error. The most successful of them as germicides have been found to set up conditions difficult to deal with and in any event more importance attaches to having the skin in a healthy condition than to precaution against germs of infection in a skin not at its best.

3. A dry base at the defect area is absolutely essential. There must be close adherence of the graft to the base, and this there cannot be if there is oozing and consequent blood clots, even the smallest of which will be destructive as to the space it occupies. Obviously, the vessels in the base must have attention. If any are to be tied it must be by suture threads that will not promote infection. The finest Deknatel silk is used. Precautions having been taken against oozing by reason of conditions disclosed by the count of the blood platelets, it may be desirable to obtain further assurance by irradiation of the spleen by roentgen rays in amounts of from one-tenth to one-fifth erythems dose. About 24 hours after irradiation the coagulation time of

the blood is gradually materially reduced, a fact helpful to the restoration of the graft. Intravenous injection of calcium of a hemostatic preparation the day before operation may be of additional advantage.

4. In taking the graft, the lines of skin tension should be respected. The graft would be cut without bevels at the edges and be a little less than will cover the defect, as it is well to have the graft on stretch a little when it is sutured in place. There is no need for rough handling. The graft can be gently transferred by threads that are to serve as anchor sutures. It should not be washed in saline or other solution. Its own serums have the double utility of temporarily countering infection and of assuring adhesion between the graft and the base. The suturing in place must be done with great patience and with care to ensure that the resultant scar at the wound edges will have the least attainable visibility.

5. With this all done, there is still to consider the factors that govern the restoration of life and function in the graft skin. With a sound viable graft on a dry bed that phase begins on skin that has been detached from the normal agencies that supply life to the cells. There are two influences that make for recuperation from this moribund condition. One is the infiltration of minute vessels from the base into the corium; the other is the nourishment that may be derived by the cells from the pervading lymph. Vascular infiltration is a slow process and if the very lowest part of the skin is transferred as was formerly the practice it takes time for the vessels to reach the tissues of the subpapillary layer. Whereas the cells of the epidermis are not sustained by vessels but are nourished by the lymph from the base on which they are set, when it can be conveyed to them, the connective tissues of the corium must have sustenance from vessels to which they are accustomed. To mitigate the delays the lowest densest subcutaneous layer is removed. Whether it is that this results in more rapid infiltration of the remainder of the corium or that the subpapillary area shares with the epidermis the sustenance derived from the lymph fluid, or both, the fact is that restoration proceeds with greater rapidity and with increased assurance when this lowest stratum of the skin is discarded. To this may be attributed much of the recent advance in the ratio of success.

Comment: The author has given a detailed outline of the condition which must be followed before a full thickness graft can be successfully used. It has been my experience that such a graft should be put on in a dry sterile field, on slight tension, moderate pressure by marine sponge and left two or even three weeks. It is not always possible to leave a graft undisturbed because of, first, possible infection, second, immobilization apparatus may become loose or contaminated, third, when moulds or sutures are used and splinted to the graft, it may be necessary to remove them earlier.

These grafts do sometimes become pigmented. The coloration may be slight but it is present. Aside from its use about the face they are very valuable in the palms of the hands and the soles of the feet where weight bearing is to be expected.

This type of graft is much better than a large pedicle graft placed in the palm of the hand so that the patient is unable to flex his hand.

With the understanding of the principles brought out the percentage of success in this type of graft is increased markedly.

INTERNAL MEDICINE

Edited by Hugh Jeter, M.D., 1200 North Walker, Oklahoma City

The Present Incidence of Trichinella Spiralis in Man as Determined by a Study of 1,060 Unselected Autopsies in St. Louis Hospitals; by Thomas B. Pote, M.D., Washington University, St. Louis, Mo. (The American Journal of the Medical Sciences, January, 1939, Vol. 197, No. 802.)

In this the author reports the study of 1,060 unselected autopsies at Barnes and St. Louis City Hospital for the Trichinella larvae. All of the subjects were over 15 years of age and had died during hospitalization from some disease other than trichiniasis. Routine examinations of generous samples of muscles of election for trichinella, namely, the diaphragm, intercostals, pectorals and recti, were made. Over 12,000 examinations were made during the course of this study. The method for examining the material consisted of squeezing thin slices of muscle tissue between two pieces of plate glass in a compression frame. These fresh unfixed and unstained preparations were then examined microscopically for the larva.

The youngest member of the group was 17 years of age and the oldest 85. The author includes tables showing (1) the degree of infestation, (2) age distribution, (3) occupation and (4) incidence of infestation. In addition the author includes photomicrographs showing stained and unstained preparations of the larva. The author concludes from this study that a severe degree of infestation may exist without related clinical symptoms. In no case in the authors series was trichinella infestation diagnosed prior to postmortem examination.

The author further concludes that at least 15 per cent of the adult urban population is probably infected with trichinella spiralis in spite of the emphasis which has been placed upon meat inspection during the past four years.

Correlation Studies of Basophilic Aggregation and Reticulocytes in Various Clinical Conditions. Maurice D. Peariman and Louis R. Limarzi, from the Department of Medicine, University of Illinois, Chicago, Ill. (American Journal of Clinical Pathology, November, 1938, Vol. 8, No. 6.)

In this the authors discuss the correlation between the basophilic aggregation counts and the reticulocyte counts in various clinical conditions. These show that the average reticulocyte count is somewhat higher than the basophilic aggregation count on the same blood. They feel that the reticulocyte count can be done more accurately and requires less experience than the basophilic aggregation count. Experiments conducted on six normal patients and 46 pathological conditions revealed that those conditions which cause an increase in the reticulocytosis also cause an increase in basophilic aggregation but that the correlation was not equal in all cases. In the article the techniques are fully described. Several charts are introduced to show that there is a divergence in the individual results of individual laboratory technicians which is greater when doing basophilic aggregation counts than when doing reticulocyte counts. In another chart they show that the same technician counting the same blood will himself obtain a larger variation in basophilic aggregation counts than he will when counting the reticulocytes. The authors conclude that the basophilic aggregation test is unreliable as a routine laboratory procedure because of the technical difficulties. They also conclude that in pathological conditions

which ordinarily reduce the reticulocyte count, such as aplastic anemias and lead poisoning, the reticulocyte count is usually higher than the basophilic count. They emphasize the basophilic aggregation test is not uniquely diagnostic of lead poisoning, it is rather an index of marrow response. Finally they believe that the basophilic aggregation test should be abandoned in favor of the "vital" method for staining reticulocytes.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D., F.A.C.S.
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Madelung's Deformity. Joseph I. Anton, George B. Reitz, and Milton B. Spiegel. Annals of Surg., CVIII, September, 1938.

This exhaustive review and critical analysis of the literature on this subject shows that there are many discrepancies in the cases reported as Madelung's deformity. The article contains a tabulation of analysis of relevant data of 171 cases of true Madelung's deformity reported in the literature between 1855 and the present time.

The authors report one case in minute detail. The pathology, predisposing factors and various etiological theories are discussed. They suggest calling the deformity dyschondroplasia of the distal radial epiphysis. They are inclined to believe that it belongs in the group of conditions which includes Calve' - Legg - Perthes, Osgood - Schlatter, Kohler's, and Kienbock's diseases.

The treatment which they recommend consists in palliative measures until the cessation of the growth. Then the deformity should be corrected by osteotomy. If the ulna is markedly longer, its projecting end must be resected.

The authors present the following classification of the various types of the deformity, which they believe is advantageous in view of the present state of the literature on this subject:

A. Presenting Radial Deformity:
   1. With interior bowing of the radius:
      a. Radial dyschondroplasia (genuine Madelung's deformity);
      b. Secondary static deformity; traumtic, luetic, inflammatory, tuberculous, osteitis, rickets, etc.;
   2. Without bowing:
      a. Radial dyschondroplasia;
      b. Secondary static deformity;

B. Presenting Ulnar Deformity:
   a. Ulnar dyschondroplasia;
   b. Secondary static deformity.

Subacromial Bursitis. A Clinical, Roentgenographic and Statistical Study. Samuel R. Rubert. Archives of Surgery, XXXVII, 619, October, 1938.

In a comprehensive article, Rubert presents the subject of subacromial bursitis from history to prognosis. A concise description of the anatomical picture and a consideration of the etiological factors are followed by a somewhat more elaborate description of the pathological picture. The roentgenographic observations are enumerated, and it is stressed that disease may be present without positive roentgenographic changes.

The author reports on a series of 288 cases seen in the orthopaedic department of the State University of Iowa. An analysis of these cases showed that the greatest incidence is between the ages of 40 and 70 years, that sex does not play an important role, and the right arm is more frequently affected than the left, and that there is an associated arthritic involvement in at least 16 per cent of the patients. Etiologically the cases were classified as traumatic, arthritic, and infectious.

The question of differential diagnosis is taken up fairly fully. The usual forms of treatment are enumerated, and it is reported that conservative measures give satisfactory results in 69 per cent of the cases; improvement in 19 per cent; and failure in 12 per cent. Operative treatment in 21 cases resulted in cure in about one-half of the cases. The author recommends that operative intervention should be reserved only for those patients in whom there has been a complete rupture of the tendon or in whom the condition does not respond to conservative measures.

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UROLOGY

Edited by D. W. Branham, M.D.
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Gonadal Activity In Prostatic Hypertrophy. M. Muschat, M. Labess and D. Meranze, Philadelphia, Pa. Journal of Urology, December, 1938.

The administration of male sex hormone in the form of Oretone or Perandren is becoming a popular mode in the treatment of prostatic hypertrophy. Such therapy is based on the theory that these patients are afflicted with male sex hormone insufficiency. However, this contention is not supported by actual quantitative studies made on the amount of male sex hormone in the prostatic patient. Previous investigators have found normal amounts of male sex hormone in both men and animals by various methods.

By means of a new test, the creatinine utilization test, in which the peculiar ability of the body in normal individuals to utilize orally administered creatinine without increasing its output in the urine as compared to the creatininuria which occurs in nurslings and young boys when creatinine is ingested. Also, the administration of male sex hormone in castrated individuals will eliminate creatininuria, when creatinine is ingested. It has been found an efficient method to determine the amount of male sex hormone.

These studies proved that the creatinine utilization test is a correct indicator of gonadal activity in the male. They found the normal adult male shows creatinine retention below 15 per cent. The eunuchs and eunuchoids show marked creatinine retention from 35 to 50 per cent. There is a noticeable decline in the activity of the gonads after the age of 50. The cases with prostatic hypertrophy have the same creatinine retention as the normal male adults, indicating continued gonadal activity.

The authors feel that the administration of more male sex hormone appears not only useless but may be harmful in promoting further growth of the prostate. They feel that it would be more logical to attempt reduction of the testicular secretion instead of increasing it.

Renal Tuberculosis: Prognosis Following Nephrectomy. John L. Emmett, M.D., and John M. Kibler, M.D., Mayo Clinic, Rochester, Minnesota. The Journal of the American Medical Association, December 24, 1938.

A study of the records of 1,131 patients on whom nephrectomy had been performed for renal tuberculosis at the Mayo Clinic between the years 1912

and 1932 inclusive. A letter of inquiry was sent to all known to be alive. There were four groups of patients studied in this series.

Group 1, patients whose good kidney was not catheterized prior to operation. Group 2, patients whose good kidney was catheterized prior to operation, and microscopic examination of the centrifuged ureteral specimen of urine revealed either no pus cells or not more than three pus cells per high power field. Group 3, patients whose good kidney was catheterized prior to operation and microscopic examination of the ureteral specimen of urine revealed from three to ten pus cells per high power field. Group 4, patients whose good kidney was catheterized prior to operation and microscopic examination of the ureteral specimen of urine revealed more than ten pus cells per high power field.

Dr. John Hand of Portland, Oregon, aptly sums up the information obtained in the following discussion: "1. That of a kidney not excreting pus or acid-fast bacilli. The patient with this type may expect a 50 per cent chance of cure, a 75 per cent chance of improvement and a 13 per cent chance of death within five years. 2. That of a kidney not excreting pus but excreting acid-fast bacilli. There is an area of caseous necrosis in which acid-fast organisms are escaping through the tubules but in which a pyogenic reaction has not yet occurred at the papilla. The patient stands a 21 per cent chance of cure, a 36 per cent chance of improvement and a 51 per cent chance of death within five years. (These pictures make one realize that the acid-fast bacilli obtained in the specimen from the good kidney are in most instances not due to contamination). 3. That of "a good kidney" with a normal urogram. The patient stands a 40 per cent chance of cure and a 30 per cent chance of death within five years. This picture emphasizes that even when the urogram is normal, acid-fast organisms may be coming from the kidney. 4. That of a kidney in which caseous necrosis, ulceration and a pyogenic reaction are taking place at the renal papilla, allowing the excretion of pus. With or without surgery the prognosis is poor."

Comment: A most praise worthy investigation which was badly needed to determine actually what our operative results produced in surgical renal tuberculosis. I was particularly happy to see that bilateral renal bacilluria is no contradiction to nephrectomy providing the good kidney presents no evidence of destructive changes. I have always been a bit hesitant in performing nephrectomy in the face of positive bacteriologic findings on the supposedly good side. This investigation shows that if we can rule out the good side so far as gross suppuration is concerned, nephrectomy for the "bad" side is the treatment of choice.

State Board of Medical Examiners

THE STATE BOARD OF MEDICAL EXAMINERS organized February 3, 1939, in Oklahoma City, electing the following members: President, Dr. Sam A. McKeel, Ada; Vice-President, Dr. C. E. Bradley, Tulsa; Secretary, Dr. Jas. D. Osborn, Jr., Frederick, re-elected. The appointment by the governor of Drs. McKeel and Newman of Shattuck as new regular members of the Board, meets with the unanimous approval of the medical profession of Oklahoma, as these are outstanding men in their profession and will well and gracefully accept the responsibility.

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STANDING COMMITTEES 1938-39

Medical Defense: Dr. O. E. Templin, Chairman, Alva; Dr. L. C. Kuyrkendall, McAlester; Dr. E. Albert Aisenstadt, Picher.

Medical Economics: Dr. C. B. Sullivan, Cordell, Chairman; Dr. J. L. Patterson, Duncan; Dr. W. M. Browning, Waurika.

Medical Education and Hospital: Dr. V. C. Tisdal, Chairman, Elk City; Dr. Robert U. Patterson, Oklahoma City; Dr. H. M. McClure, Chickasha.

Public Policy and Legislation: Dr. Finis W. Ewing, Surety Bldg., Chairman, Muskogee; Dr. Tom Lowry, 1200 North Walker, Oklahoma City; Dr. O. C. Newman, Shattuck; Dr. R. O. Early, Medical Arts Bldg., Oklahoma City.

(The above committee co-ordinated by the following, selected from each councilor district.)

District No. 1.—Arthur E. Hale, Alva.
District No. 2.—McLain Rogers, Clinton.
District No. 3.—Thomas McElroy, Ponca City.
District No. 4.—L. H. Ritzhaupt, Guthrie.
District No. 5.—P. V. Annadown, Sulphur.
District No. 6.—R. M. Shepard, Tulsa.
District No. 7.—Sam A. McKeel, Ada.
District No. 8.—J. A. Morrow, Sallisaw.
District No. 9.—W. A. Tolleson, Eufaula.
District No. 10.—J. L. Holland, Madill.

Scientific Exhibits: Dr. E. Rankin Denny, Chairman, Tulsa; Dr. Robert H. Akin, Oklahoma City; Dr. R. C. Pigford, Tulsa.

Scientific Work: Dr. W. G. Husband, Chairman, Hollis; Dr. J. S. Rollins, Prague; Dr. J. L. Day, Supply.

Public Health:

Chairman—Dr. G. S. Baxter, Shawnee.
District No. 1.—C. W. Tedrowe, Woodward.
District No. 2.—E. W. Mabry, Altus.
District No. 3.—L. A. Mitchell, Stillwater.
District No. 4.—J. J. Gable, Norman.
District No. 5.—Geo. S. Barber, Lawton.
District No. 6.—C. E. Bradley, Tulsa.
District No. 7.—G. S. Baxter, Shawnee.
District No. 8.—M. M. De Arman, Miami.
District No. 9.—T. H. McCarley, McAlester.
District No. 10.—J. B. Clark, Coalgate.

SCIENTIFIC SECTIONS

General Surgery: Dr. F. L. Flack, Chairman, Nat'l Bank of Tulsa Bldg., Tulsa; Dr. John E. McDonald, Vice-Chairman, Medical Arts Bldg., Tulsa; Dr. John F. Burton, Secretary, Osler Building, Oklahoma City.

General Medicine: Dr. Frank Nelson, Chairman, 603 Medical Arts Bldg., Tulsa; Dr. E. R. Musick, Vice-Chairman, Medical Arts Bldg., Oklahoma City; Dr. Milam McKinney, Medical Arts Bldg., Oklahoma City.

Eye, Ear, Nose & Throat: Dr. E. H. Coachman, Chairman, Manhattan Bldg., Muskogee; Dr. F. M. Cooper, Vice-President, Medical Arts Bldg., Oklahoma City; Dr. James R. Reed, Secretary, Medical Arts Bldg., Oklahoma City.

Obstetrics and Pediatrics: Dr. C. W. Arrendell, Chairman, Ponca City; Dr. Carl F. Simpson, Vice-Chairman, Medical Arts Bldg., Tulsa; Dr. Ben H. Nicholson, Secretary, 300 West Twelfth Street, Oklahoma City.

Genito-Urinary Diseases and Syphilology: Dr. Elijah Sullivan, Chairman, Medical Arts Bldg., Oklahoma City; Dr. Henry Browne, Vice-Chairman, Medical Arts Bldg., Tulsa; Dr. Robert Akin, Secretary, 400 West Tenth, Oklahoma City.

Dermatology and Radiology: Dr. W. A. Showman, Chairman, Medical Arts Bldg., Tulsa; Dr. E. D. Greenberger, Vice-Chairman, McAlester; Dr. Hervey A. Foerster, Secretary, Medical Arts Bldg., Oklahoma City.

STATE BOARD OF MEDICAL EXAMINERS

Dr. Sam A. McKeel, Ada, President; Dr. C. E. Bradley, Tulsa, Vice-President; Dr. J. D. Osborn, Jr., Frederick, Secretary; Dr. O. C. Newman, Shattuck; Dr. L. E. Emanuel, Chickasha; Dr. S. D. Leslie, Okmulgee; Dr. G. H. Stagner, Erick.

STATE COMMISSIONER OF HEALTH

Dr. Grady F. Mathews, Oklahoma City.

COUNCILORS AND THEIR COUNTIES

District No. 1: Texas, Beaver, Cimarron, Harper, Ellis, Woods, Woodward, Alfalfa, Major, Dewey—Dr. O. E. Templin, Alva. (Term expires 1940.)

District No. 2: Roger Mills, Beckham, Greer, Harmon, Washita, Kiowa, Custer, Jackson, Tillman—Dr. V. C. Tisdal, Elk City. (Term expires 1939.)

District No. 3: Grant, Kay, Garfield, Noble, Payne, Pawnee—Dr. A. S. Risser, Blackwell. (Term expires 1941.)

District No. 4: Blaine, Kingfisher, Canadian, Logan, Oklahoma, Cleveland—Dr. Philip M. McNeill, Oklahoma City. (Term expires 1941.)

District No. 5: Caddo, Comanche, Cotton, Grady, Love, Stephens, Jefferson, Carter, Murray—Dr. Walter Hardy, Ardmore. (Term expires 1941.)

District No. 6: Osage, Creek, Washington, Nowata, Rogers, Tulsa—Dr. James Stevenson, Medical Arts Bldg., Tulsa. (Term expires, 1941.)

District No. 7: Lincoln, Pontotoc, Pottawatomie, Okfuskee, Seminole, McClain, Garvin, Hughes—Dr. J. A. Walker, Shawnee. (Term expires 1939.)

District No. 8: Craig, Ottawa, Mayes, Delaware, Wagoner, Adair, Cherokee, Sequoyah, Okmulgee, Muskogee—Dr. E. A. Aisenstadt, Picher. (Term expires 1939.)

District No. 9: Pittsburg, Haskell, Latimer, LeFlore, McIntosh—Dr. L. C. Kuyrkendall, McAlester. (Term expires 1939.)

District No. 10: Johnson, Marshall, Coal, Atoka, Bryan, Choctaw, Pushmataha, McCurtain—Dr. J. S. Fulton, Atoka. (Term expires 1939.)